

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Donald Taranaro Examiner #: 73088 Date: 3/16/2010
 Art Unit: 1773 Phone Number 308-2379 Serial Number: 09/101,083
 Mail Box and Bldg/Room Location: 11A01 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

 Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Organic Element and Organic EL Display
 Inventors (please provide full names): Satoru Miyashita, Hiroshi Kiguchi, Tatsuya Shimada
Sadao Kanbe
 Earliest Priority Filing Date: 11/25/96

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

Attached Info

STAFF USE ONLY

| Type of Search | | Vendors and cost where applicable |
|----------------------------------------|-----------------------|-----------------------------------|
| Searcher: <u>ET</u> | NA Sequence (#) _____ | STN <u>\$ 204.93</u> |
| Searcher Phone: <u>308-2379</u> | AA Sequence (#) _____ | Diagrams _____ |
| | Bibliographic _____ | Dr. Link _____ |
| | Fulltext _____ | WWW/Internet _____ |
| Searcher Prep & Review Time: <u>15</u> | Patent Family _____ | Other (specify) _____ |
| Clerical Prep Time: _____ | Other _____ | |
| Online Time: <u>85</u> | | |

Search Request: 09/101,083

(El or Electroluminescent) with (device or display or element) in which the pigment layer has been put down by "ink jet printing" or "inkjet printing".

The structure has a transparent substrate, electrodes, a luminescent or light emitting layer, and a second layer of electrodes.

The purported inventive feature is that the luminescent layer is put down by inkjet printing.

Other considerations: I found a good US patent 6,013,982 which discloses what the applicant is doing, I was wondering if these people have published articles also (University Patent).

Larry Tarazano
11B 8 CP3
308-2379

=> file home

FILE 'HOME' ENTERED AT 10:49:51 ON 21 MAR 2000

=> display history full 11-

(FILE 'HOME' ENTERED AT 09:27:50 ON 21 MAR 2000)

FILE 'LCA' ENTERED AT 09:28:54 ON 21 MAR 2000

L1 7572 SEA (DEVICE? OR CONTRIVANCE? OR INVENTION? OR APPARAT?
OR APP## OR IMPLEMENT? OR INSTRUMENT? OR TOOL? OR
UTENSIL? OR EQUIP?)/BI,AB

L2 7645 SEA (FILM? OR THINFILM? OR LAYER? OR OVERLAY? OR
OVERLAID? OR LAMIN? OR LAMEL? OR SHEET? OR LEAF? OR
FOIL? OR COAT? OR TOPCOAT? OR OVERCOAT? OR VENEER? OR
SHEATH? OR COVER? OR ENVELOP? OR ENCAS? OR ENWRAP? OR
OVERSPREAD?)/BI,AB

FILE 'HCA, WPIDS, JAPIO' ENTERED AT 09:36:18 ON 21 MAR 2000

L3 37690 SEA EL OR E(W)L OR ELECTROLUM!N? OR ELECTRO(2A)(LUMEN?
OR LUMIN?) OR LED/IT OR LEDS/IT OR L(W)E(W)D OR LIGHT?(3A
(EMIT? OR EMISSION?)(3A)(L1 OR ELEMENT# OR DISPLAY? OR
PANEL? OR FLATPANEL? OR MONITOR? OR SCREEN? OR DIOD?)

L4 44734 SEA EL OR E(W)L OR ELECTROLUM!N? OR ELECTRO(2A)(LUMEN?
OR LUMIN?) OR LED/IT OR LEDS/IT OR L(W)E(W)D OR LIGHT?(3A
(EMIT? OR EMISSION?)(3A)(L1 OR ELEMENT# OR DISPLAY? OR
PANEL? OR FLATPANEL? OR MONITOR? OR SCREEN? OR DIOD?)

L5 174727 SEA EL OR E(W)L OR ELECTROLUM!N? OR ELECTRO(2A)(LUMEN?
OR LUMIN?) OR LED/IT OR LEDS/IT OR L(W)E(W)D OR LIGHT?(3A
(EMIT? OR EMISSION?)(3A)(L1 OR ELEMENT# OR DISPLAY? OR
PANEL? OR FLATPANEL? OR MONITOR? OR SCREEN? OR DIOD?)

L6 257151 SEA EL OR E(W)L OR ELECTROLUM!N? OR ELECTRO(2A)(LUMEN?
OR LUMIN?) OR LED/IT OR LEDS/IT OR L(W)E(W)D OR LIGHT?(3A
(EMIT? OR EMISSION?)(3A)(L1 OR ELEMENT# OR DISPLAY? OR
PANEL? OR FLATPANEL? OR MONITOR? OR SCREEN? OR DIOD?)

L7 8895 SEA INK?(2A)(JET OR JETS OR JETTED OR JETTING#) OR
INKJET?

L8 25984 SEA INK?(2A)(JET OR JETS OR JETTED OR JETTING#) OR
INKJET?

L9 47643 SEA INK?(2A)(JET OR JETS OR JETTED OR JETTING#) OR
INKJET?

L10 82522 SEA INK?(2A)(JET OR JETS OR JETTED OR JETTING#) OR
INKJET?

L11 3311 SEA (COLOR? OR COLOUR? OR PIGMENT? OR DYE? OR STAIN? OR
PAINT? OR CHROMA# OR CHROMOGEN? OR CHROMOPHOR? OR TINCT?
OR TINT?)/BI,AB

L12 3143 SEA (COLOR? OR COLOUR? OR PIGMENT? OR DYE? OR STAIN? OR
PAINT? OR CHROMA# OR CHROMOGEN? OR CHROMOPHOR? OR TINCT?
OR TINT?)/BI,AB

L13 37690 SEA EL OR E(W)L OR ELECTROLUM!N? OR ELECTRO(2A)(LUMEN?
OR LUMIN?) OR LED/IT OR LEDS/IT OR L(W)E(W)D OR LIGHT?(3A
(EMIT? OR EMISSION?)(3A)(L1 OR ELEMENT# OR DISPLAY? OR
PANEL? OR FLATPANEL? OR MONITOR? OR SCREEN? OR DIOD?)

L14 44734 SEA EL OR E(W)L OR ELECTROLUM!N? OR ELECTRO(2A)(LUMEN?
OR LUMIN?) OR LED/IT OR LEDS/IT OR L(W)E(W)D OR LIGHT?(3A
(EMIT? OR EMISSION?)(3A)(L1 OR ELEMENT# OR DISPLAY? OR
PANEL? OR FLATPANEL? OR MONITOR? OR SCREEN? OR DIOD?)

L15 174727 SEA EL OR E(W)L OR ELECTROLUM!N? OR ELECTRO(2A)(LUMEN?
OR LUMIN?) OR LED/IT OR LEDS/IT OR L(W)E(W)D OR LIGHT?(3A
(EMIT? OR EMISSION?)(3A)(L1 OR ELEMENT# OR DISPLAY? OR
PANEL? OR FLATPANEL? OR MONITOR? OR SCREEN? OR DIOD?)

L16 257151 SEA EL OR E(W)L OR ELECTROLUM!N? OR ELECTRO(2A)(LUMEN?
OR LUMIN?) OR LED/IT OR LEDS/IT OR L(W)E(W)D OR LIGHT?(3A
(EMIT? OR EMISSION?)(3A)(L1 OR ELEMENT# OR DISPLAY? OR
PANEL? OR FLATPANEL? OR MONITOR? OR SCREEN? OR DIOD?)

L17 8895 SEA INK?(2A)(JET OR JETS OR JETTED OR JETTING#) OR
INKJET?

CHROMA# OR CHROMOGEN? OR CHROMOPHOR? OR TINCT? OR
TINT?)/BI,AB

FILE 'HCA, WPIDS, JAPIO' ENTERED AT 09:48:27 ON 21 MAR 2000

L13 77154 SEA (L12 OR EL OR ELECTROLUM!N? OR ELECTRO(2A) (LUMIN? OR
LUMEN?)) (2A) L2

L14 67891 SEA (L12 OR EL OR ELECTROLUM!N? OR ELECTRO(2A) (LUMIN? OR
LUMEN?)) (2A) L2

L15 38375 SEA (L12 OR EL OR ELECTROLUM!N? OR ELECTRO(2A) (LUMIN? OR
LUMEN?)) (2A) L2

TOTAL FOR ALL FILES

L16 183420 SEA (L12 OR EL OR ELECTROLUM!N? OR ELECTRO(2A) (LUMIN? OR
LUMEN?)) (2A) L2

L17 6051 SEA PIXEL?

L18 37274 SEA PIXEL?

L19 16835 SEA PIXEL?

TOTAL FOR ALL FILES

L20 60160 SEA PIXEL?

L21 46 SEA L3 AND L7

L22 91 SEA L4 AND L8

L23 3006 SEA L5 AND L9

TOTAL FOR ALL FILES

L24 3143 SEA L6 AND L10

L25 11 SEA L21 AND L13

L26 5 SEA L22 AND L14

L27 26 SEA L23 AND L15

TOTAL FOR ALL FILES

L28 42 SEA L24 AND L16

L29 5 SEA L21 AND L17

L30 7 SEA L22 AND L18

L31 84 SEA L23 AND L19

TOTAL FOR ALL FILES

L32 96 SEA L24 AND L20

FILE 'LCA' ENTERED AT 10:04:19 ON 21 MAR 2000

L33 430 SEA (APPLY? OR APPLIED OR APPLICATION? OR INTRODUC? OR
DEPOSIT?) (2A) L2

L34 13835 SEA PIXEL?

FILE 'HCA, WPIDS, JAPIO' ENTERED AT 10:07:44 ON 21 MAR 2000

L34 160904 SEA (APPLY? OR APPLIED OR APPLICATION? OR INTRODUC? OR
DEPOSIT?) (2A) L2

L35 147780 SEA (APPLY? OR APPLIED OR APPLICATION? OR INTRODUC? OR
DEPOSIT?) (2A) L2

L36 72772 SEA (APPLY? OR APPLIED OR APPLICATION? OR INTRODUC? OR
DEPOSIT?) (2A) L2

TOTAL FOR ALL FILES

L37 381456 SEA L33

L38 5 SEA L21 AND L34

L39 8 SEA L22 AND L35

L40 15 SEA L23 AND L36

TOTAL FOR ALL FILES

L41 28 SEA L24 AND L37

L42 81 SEA L23 AND L11

TOTAL FOR ALL FILES

L43 66 SEA L24 AND L10

FILE 'HCA, WPIDS, JAPIO' ENTERED AT 10:10:00 ON 21 MAR 2000

L44 430 SEA (APPLY? OR APPLIED OR APPLICATION? OR INTRODUC? OR
DEPOSIT?) (2A) L2

FILE 'JAPIO' ENTERED AT 10:13:49 ON 21 MAR 2000

L42 3006 SEA L5 AND L9
 L43 26 SEA L42 AND L15
 L44 84 SEA L42 AND L19
 L45 15 SEA L42 AND L36
 L46 1 SEA L43 AND L44
 L47 122 SEA L36(25A)L9
 L48 1 SEA L47 AND L5

FILE 'REGISTRY' ENTERED AT 10:18:54 ON 21 MAR 2000

E POLYPARAPHENYLENE VINYLENE/CN
 E PHENYLENE VINYLENE POLYMER/CN
 E POLYVINYLPHENYLENE/CN
 E POLYVINYL PHENYLENE/CN
 E PVP/CN
 L49 1 SEA PVP/CN
 D SCAN

FILE 'LREGISTRY' ENTERED AT 10:21:02 ON 21 MAR 2000

L50 5 SEA VINYLENE#(L)PHENYLENE#
 L51 1 SEA L50 AND PMS/CI
 D SCAN

FILE 'REGISTRY' ENTERED AT 10:21:49 ON 21 MAR 2000

L42 1026 SEA VINYLENE#(L)PHENYLENE#
 L52 169 SEA L51 AND PMS/CI
 L53 25 SEA L53 AND 2/ELC.SUB
 L54

FILE 'HCA, WPIDS, JAPIO' ENTERED AT 10:25:45 ON 21 MAR 2000

L55 2958 SEA L54 OR POLYVINYLENEPHENYLENE# OR POLYPHENYLENEVINYLENE# OR POLYPARAPHENYLENEVINYLENE# OR POLYVINYLENEPARAPHENYLENE# OR (POLYVINYLENE# OR VINYLENE#) (2A) (PHENYLENE# OR POLYPHENYLENE# OR POLYPARAPHENYLENE# OR PARAPHENYLENE#)
 L56 289 SEA L54 OR POLYVINYLENEPHENYLENE# OR POLYPHENYLENEVINYLENE# OR POLYPARAPHENYLENEVINYLENE# OR POLYVINYLENEPARAPHENYLENE# OR (POLYVINYLENE# OR VINYLENE#) (2A) (PHENYLENE# OR POLYPHENYLENE# OR POLYPARAPHENYLENE# OR PARAPHENYLENE#)
 L57 77 SEA L54 OR POLYVINYLENEPHENYLENE# OR POLYPHENYLENEVINYLENE# OR POLYPARAPHENYLENEVINYLENE# OR POLYVINYLENEPARAPHENYLENE# OR (POLYVINYLENE# OR VINYLENE#) (2A) (PHENYLENE# OR POLYPHENYLENE# OR POLYPARAPHENYLENE# OR PARAPHENYLENE#)

TOTAL FOR ALL FILES

L58 3324 SEA L54 OR POLYVINYLENEPHENYLENE# OR POLYPHENYLENEVINYLENE# OR POLYPARAPHENYLENEVINYLENE# OR POLYVINYLENEPARAPHENYLENE# OR (POLYVINYLENE# OR VINYLENE#) (2A) (PHENYLENE# OR POLYPHENYLENE# OR POLYPARAPHENYLENE# OR PARAPHENYLENE#)

L59 7 SEA L21 AND L55
 L60 3 SEA L22 AND L56
 L61 4 SEA L23 AND L57

TOTAL FOR ALL FILES

L62 14 SEA L24 AND L58

FILE 'JAPIO' ENTERED AT 10:27:01 ON 21 MAR 2000

L63 5 SEA L46 OR L48 OR L61
L64 14 SEA L40 NOT L63
L65 21 SEA L27 NOT (L63 OR L64)

FILE 'WPIDS' ENTERED AT 10:28:40 ON 21 MAR 2000

L66 18 SEA L26 OR L30 OR L39 OR L60
L67 73 SEA L22 NOT L66

FILE 'HCA' ENTERED AT 10:30:08 ON 21 MAR 2000

L68 23 SEA L25 OR L29 OR L38 OR L59
L69 23 SEA L21 NOT L68
L70 25728 SEA THOMPSON ?/AU
L71 1641 SEA FORREST ?/AU
L72 69 SEA L70 AND L71
L73 2304 SEA THOMPSON M?/AU
L74 321 SEA FORREST S?/AU
L75 54 SEA L73 AND L74
L76 1 SEA L75 AND L7
L77 47 SEA L75 AND L3
L78 1 SEA L72 AND L7

FILE 'WPIDS' ENTERED AT 10:35:40 ON 21 MAR 2000

L79 4411 SEA THOMPSON ?/AU
L80 269 SEA FORREST ?/AU
L81 8 SEA L79 AND L80
L82 1 SEA L81 AND L8
L83 8 SEA L81 AND L4

FILE 'JAPIO' ENTERED AT 10:36:28 ON 21 MAR 2000

L84 65 SEA THOMPSON ?/AU
L85 5 SEA FORREST ?/AU
L86 0 SEA L84 AND L85

FILE 'SCISEARCH' ENTERED AT 10:36:56 ON 21 MAR 2000

L87 45936 SEA THOMPSON ?/AU
L88 3354 SEA FORREST ?/AU
L89 72 SEA L87 AND L88
L90 435 SEA INK? (2A) (JET OR JETS OR JETTED OR JETTING#) OR
INKJET?
L91 0 SEA L89 AND L90
D COST

FILE 'HOME' ENTERED AT 10:39:04 ON 21 MAR 2000

FILE 'HCA' ENTERED AT 10:44:39 ON 21 MAR 2000

L70 DCA FORREST ?/AU
L76 1 ALL

FILE 'WPIDS' ENTERED AT 10:49:10 ON 21 MAR 2000

D

L82 1 MAX

FILE 'HOME' ENTERED AT 10:49:51 ON 21 MAR 2000

FILE HOME

FILE LCA

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FILE WPIDS

FILE LAST UPDATED: 20 MAR 2000

<20000320/UP>

>>>UPDATE WEEKS:

MOST RECENT DERWENT WEEK 200014 <200014/DW>

DERWENT WEEK FOR CHEMICAL CODING: 200014

DERWENT WEEK FOR POLYMER INDEXING: 200014

DERWENT WORLD PATENTS INDEX SUBSCRIBER FILE, COVERS 1963 TO DATE

>>> D COST AND SET NOTICE DO NOT REFLECT SUBSCRIBER DISCOUNTS -
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>>> FOR UP-TO-DATE INFORMATION ABOUT ALL 'NEW CONTENT' CHANGES TO
WPIDS, INCLUDING THE DERWENT CHEMISTRY RESOURCE (DCR),
PLEASE VISIT <http://www.derwent.com/newcontent.html> <<<

>>> FOR DETAILS OF THE PATENTS COVERED IN CURRENT UPDATES,
SEE <http://www.derwent.com/covcodes.html> <<<

FILE JAPIO

FILE LAST UPDATED: 15 MAR 2000 <20000315/UP>

FILE COVERS 1976 TO DATE.

>>> DATA ELEMENTS TO BE REMOVED - SEE NEWS <<<

FILE REGISTRY

STRUCTURE FILE UPDATES: 19 MAR 2000 HIGHEST RN 259547-36-9

DICTIONARY FILE UPDATES: 19 MAR 2000 HIGHEST RN 259525-00-3

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 13, 1999

Please note that search-term pricing does apply when
conducting SmartSELECT searches.

Structure search limits have been increased. See HELP SLIMIT
for details.

FILE LREGISTRY

LREGISTRY IS A STATIC LEARNING FILE

FILE SCISEARCH

FILE COVERS 1974 TO 17 Mar 2000 (20000317/ED)

=> file hca

FILE 'HCA' ENTERED AT 10:50:17 ON 21 MAR 2000

USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.

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FILE LAST UPDATED: 17 Mar 2000 (20000317/ED)

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=> d 176 1 all

L76 ANSWER 1 OF 1 HCA COPYRIGHT 2000 ACS
 AN 129:102028 HCA
 TI Multicolor display device
 IN **Thompson, Mark E.; Forrest, Stephen R.**
 PA The Trustees of Princeton University, USA; The University of Southern California
 SO PCT Int. Appl., 27 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 IC ICM H05B033-12
 CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|-----------------|----------|
| PI | WO 9828946 | A1 | 19980702 | WO 1997-US23635 | 19971223 |
| | W: | AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | |
| | RW: | GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG | | | |
| | US 6013982 | A | 20000111 | US 1996-772333 | 19961223 |
| | AU 9857123 | A1 | 19980717 | AU 1998-57123 | 19971223 |
| | EP 958714 | A1 | 19991124 | EP 1997-953361 | 19971223 |
| | R: | AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO | | | |
| PRAI | US 1996-772333 | | 19961223 | | |
| | WO 1997-US23635 | | 19971223 | | |
| AB | A multicolor display device includes a transparent substrate, red and green fluorescent dyes ink-jet-printed onto the substrate, a conductive layer deposited over the red and green dyes, an org. blue light-emitting layer deposited over the conductive layer, and an elec. contact deposited onto the blue light-emitting layer. | | | | |
| ST | multicolor display device fluorescent dye printing | | | | |
| IT | Electroluminescent devices | | | | |
| | Electrooptical imaging devices (color; with fluorescent dyes deposited by ink-jet printing) | | | | |
| IT | Polyesters, uses (multicolor display devices contg. fluorescent dyes and matrixes | | | | |

of)
IT 9003-17-2, Polybutadiene 9011-14-7, Poly(methyl methacrylate)
25067-59-8, Poly(vinylcarbazole) 65181-78-4, N,N'-Diphenyl-N,N'-
bis(3-methylphenyl)-1,1'-biphenyl-4,4'-diamine
(multicolor display devices contg. fluorescent dyes and matrixes
of)

=> file wpids

FILE 'WPIDS' ENTERED AT 10:50:33 ON 21 MAR 2000
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FILE LAST UPDATED: 20 MAR 2000 <20000320/UP>

>>>UPDATE WEEKS:

MOST RECENT DERWENT WEEK 200014 <200014/DW>
DERWENT WEEK FOR CHEMICAL CODING: 200014
DERWENT WEEK FOR POLYMER INDEXING: 200014
DERWENT WORLD PATENTS INDEX SUBSCRIBER FILE, COVERS 1963 TO DATE

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=> d l82.1;iall

L82 ANSWER 1 OF 1 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD

ACCESSION NUMBER: 1998-378033 [32] WPIDS

DOC. NO. NON-CPI: N1998-303016

DOC. NO. CPI: C1998-117651

TITLE: High resolution multicolour display device - has
red, green and-or blue fluorescent dyes ink
jet printed in predetermined configuration
onto front surface of transparent substrate.

DERWENT CLASS: A85 E14 L03 W01 W03 W05 X22 X26

INVENTOR(S): FORREST, S R; THOMPSON, M E

PATENT ASSIGNEE(S): (UYPR-N) UNIV PRINCETON; (UYSC-N) UNIV SOUTHERN
CALIFORNIA

COUNTRY COUNT: 82

PATENT INFORMATION:

PATENT NO KIND DATE WEEK LA PG MAIN IPC

WO 9828946 A1 19980702 (199832)* EN 25 H05B033-12

RW: AT BE CH DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW

NL OA PT SD SE SZ UG ZW
 W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI
 GB GE GH GW HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU
 LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ
 TM TR TT UA UG UZ VN YU ZW
 AU 9857123 A 19980717 (199848) H05B033-12
 EP 958714 A1 19991124 (199954) EN H05B033-12
 R: AL AT BE CH DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL
 PT RO SE SI
 US 6013982 A 20000111 (200010) H01J001-62

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|------------|------|-----------------|----------|
| WO 9828946 | A1 | WO 1997-US23635 | 19971223 |
| AU 9857123 | A | AU 1998-57123 | 19971223 |
| EP 958714 | A1 | EP 1997-953361 | 19971223 |
| | | WO 1997-US23635 | 19971223 |
| US 6013982 | A | US 1996-772333 | 19961223 |

FILING DETAILS:

| PATENT NO | KIND | PATENT NO |
|------------|-------------|------------|
| AU 9857123 | A Based on | WO 9828946 |
| EP 958714 | A1 Based on | WO 9828946 |

PRIORITY APPLN. INFO: US 1996-772333 19961223

INT. PATENT CLASSIF.:

MAIN: H01J001-62; H05B033-12

SECONDARY: A B32B007-00; H05B033-14

BASIC ABSTRACT:

WO 9828946 A UPAB: 19980826

The display includes a transparent substrate (22), such as glass, and red, green and/or blue fluorescent dyes (21) ink jet printed onto a front side of the substrate to create an image with predetermined configuration. The image is then exposed to ultraviolet or other short wavelength radiation to activate the dyes and create a luminous display. Preferably, a layer of transparent, conductive material (23) is then deposited over the dyes.

A layer of organic, blue light emitting device (OBLED) (24) is then deposited over the transparent conductive layer, and a conductive layer is deposited over the OBLED layer. Electrical contacts (25) are then placed on the OBLED in each of the red, green and blue light emitting regions, to facilitate the application of a potential across the conductive layers which illuminates the OBLED layer, producing a blue emission, which stimulates fluorescent emission in the dyes.

Also claimed are a vehicle, a printer and a telecommunications device incorporating the display.

The fluorescent dye material comprises one or more fluorescent

dyes and a matrix material.

The matrix material is selected from polymethylmethacrylate, polybutadiene, polyvinyl-carbazole, polyesters and N,N'-diphenyl-N,N' bis(3-methylphenyl)-1,1'-biphenyl-4,4'-diamine

USE - For computer, television, telecommunications device, vehicle, billboard or sign, theatre or stadium screen. In xerography.

Dwg.2/2

FILE SEGMENT: CPI EPI
FIELD AVAILABILITY: AB; GI; DCN
MANUAL CODES: CPI: A12-E11; E24-A; L03-G05; L03-H04A
EPI: W01-C01A2; W03-A08C; W03-A08X; W05-E01B;
X22-E; X26-J

=> file japio

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=> d 163 1-5 iall

L63 ANSWER 1 OF 5 JAPIO COPYRIGHT 2000 JPO
ACCESSION NUMBER: 1999-054270 JAPIO
TITLE: COMPOSITION FOR ORGANIC EL ELEMENT AND
MANUFACTURE OF ORGANIC EL ELEMENT
INVENTOR: KIGUCHI HIROSHI; KANBE SADA0; SEKI SHUNICHI
PATENT ASSIGNEE(S): SEIKO EPSON CORP, JP (CO 000236)
PATENT INFORMATION:

| PATENT NO | KIND | DATE | ERA | MAIN IPC |
|-------------|------|----------|--------|----------------|
| JP 11054270 | A | 19990226 | Heisei | (6) H05B033-10 |

APPLICATION INFORMATION

ST19N FORMAT: JP1997-204697 19970730
ORIGINAL: JP09204697 Heisei
SOURCE: PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined
Applications, Vol. 99, No. 2
INT. PATENT CLASSIF.:
MAIN: (6) H05B033-10
SECONDARY: (6) B41J002-01; (6) C09K011-06; (6) H05B033-14
ABSTRACT:

PURPOSE: TO BE SOLVED: To easily perform patterning of high accuracy

in a short time, without the generation of flight curves and the cloggings in forming a pattern by an inkjet method.

CONSTITUTION: mposition for an organic EL element which includes a precursor of a conjugated organic polymer mainly forming the luminescent layers 106-108, and at least one kind of fluorescent coloring matter for changing the luminescent property of the luminescent layers 106-108, to be used in the pattern formation by an inkjet method equipped with at least one of the conditions that a contact angle to a material forming a nozzle face of an inkjet head 110, is 30-170.degree.C, the viscosity is 1-20 cp, and the surface tension is 2-70 dyne. As the precursor in the composition, for example, polyvinylene phenylene or a derivative thereof can be used. As the fluorescent coloring matter, for example, rhodamine B, distyrylbiphenyl, coumalin, tetraphenyl butadiene, quinacridone and the derivatives thereof can be used.

L63 ANSWER 2 OF 5 JAPIO COPYRIGHT 2000 JPO

ACCESSION NUMBER: 1999-040358 JAPIO

TITLE: COMPOSITION FOR ORGANIC EL ELEMENT AND MANUFACTURE OF ORGANIC EL ELEMENT

INVENTOR: KIGUCHI HIROSHI; KANBE SADA0

PATENT ASSIGNEE(S): SEIKO EPSON CORP; JP (CO 000236)

PATENT INFORMATION:

| PATENT NO | KIND | DATE | ERA | MAIN IPC |
|-------------|------|----------|--------|----------------|
| JP 11040358 | A | 19990212 | Heisei | (6) H05B033-14 |

JP

APPLICATION INFORMATION

ST19N FORMAT: JP1997-191681 19970716

ORIGINAL: JP09191681 Heisei

SOURCE: PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 99, No. 2

INT. PATENT CLASSIF.:

MAIN: (6) H05B033-14

SECONDARY: (6) C08G061-02; (6) C09D011-00; (6) C09D165-04; (6) C09K011-06; (6) H05B033-10

ABSTRACT:

PURPOSE: TO BE SOLVED: To simply conduct patterning in a short time with high accuracy simply optimize film designing and a luminescent characteristic, and easily adjust color development efficiency.

CONSTITUTION: mposition for an organic EL element in which a pattern is formed by an ink jet process

contains a precursor of a conjugated polymer organic compound for forming mainly luminescent layers 106-108 and at least one

fluorescent dye for varying the luminescent characteristic of the luminescent layer. As the precursor, for example,

polyvinylene phenyl n or its derivative is

listed. As the fluorescent dye, for example, rhodamine B, distyryl biphenyl, coumarin, tetraphenyl butadiene, and a derivative of them

are listed.

L63 ANSWER 3 OF 5 JAPIO COPYRIGHT 2000 JPO
 ACCESSION NUMBER: 1998-153967 JAPIO
 TITLE: FULL-COLOR ORGANIC EL DISPLAY DEVICE
 AND ITS PRODUCTION
 INVENTOR: MIYASHITA SATORU; KIGUCHI HIROSHI; SHIMODA
 TATSUYA
 PATENT ASSIGNEE(S): SEIKO EPSON CORP, JP (CO 000236)
 PATENT INFORMATION:

| PATENT NO | KIND | DATE | ERA | MAIN IPC |
|-------------|------|----------|--------|----------------|
| JP 10153967 | A | 19980609 | Heisei | (6) G09F009-30 |

JP

APPLICATION INFORMATION

ST19N FORMAT: JP1996-313828 19961125
 ORIGINAL: JP08313828 Heisei
 SOURCE: PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined
 Applications, Vol. 98, No. 6

INT. PATENT CLASSIF.:

MAIN: (6) G09F009-30
 SECONDARY: (6) C09K011-00; (6) H05B033-10; (6) H05B033-12

ABSTRACT:

PURPOSE: TO BE SOLVED: To inexpensively produce a full-color display of a large screen by forming respective transparent **pixel** electrodes of red, green and blue on a transparent substrate, forming red and green **color** developing **layers** only on the red and green transparent **pixel** electrodes and a blue **color** developing **layer** over the entire

surface and forming counter electrodes on the upper layers thereof.
 CONSTITUTION: red transparent **pixel** electrodes 101, the green transparent **pixel** electrodes 102 and the blue transparent **pixel** electrodes 103 are formed on the transparent substrate 104. The red org. light emitting layer 106 and the green org. light emitting layer 107 are formed only on the red and green transparent **pixel** electrodes 101, 102 and the green org. light emitting layer 109 is formed over the entire surface. Further, the counter electrodes 110 are formed on the upper layers thereof. The formation of the org. light emitting layers 106, 107 is executed by patterning and applying red and green org. light emitting materials by an **ink jet** method and the formation of the blue org. light emitting layer 109 is executed by a vacuum vapor deposition method, etc., by which the full-color display is obtd. The red and green org. light emitting layers 106, 107 are **polyparaphenylene vinylene** and their derivatives and the copolymers consisting of thereof as basic units.

L63 ANSWER 4 OF 5 JAPIO COPYRIGHT 2000 JPO
 ACCESSION NUMBER: 1998-100442 JAPIO
 TITLE: PRINTER

INVENTOR: KATAYAMA YOSHIKI
 PATENT ASSIGNEE(S): BROTHER IND LTD, JP (CO 000526)
 PATENT INFORMATION:

| PATENT NO | KIND | DATE | ERA | MAIN IPC |
|-------------|------|----------|--------|-----------------|
| JP 10100442 | A | 19980421 | Heisei | (6) B41J002-175 |

JP

APPLICATION INFORMATION

ST19N FORMAT: JP1996-258619 19960930

ORIGINAL: JP08258619 Heisei

SOURCE: PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 98, No. 4

INT. PATENT CLASSIF.:

MAIN: (6) B41J002-175

SECONDARY: (6) B41J003-28; (6) B41J003-36

ABSTRACT:

PURPOSE: TO BE SOLVED: To provide a printer in which ink can be saved by suppressing useless purge of an ink jet head.

CONSTITUTION: a cap 30 is fitted to the housing 20 of a printer at the time of purging an ink jet head 4, a nozzle cover 36 is applied tightly to the nozzle part of the ink jet head 4 which is then evacuated through the nozzle by means of a motor 34. Consequently, residual ink in the nozzle is sucked and the ink jet head 4 is purged and the number of times of purging operation is counted by a counter 40 and indicated.

L63 ANSWER 5 OF 5 JAPIO COPYRIGHT 2000 JPO

ACCESSION NUMBER: 1998-012377 JAPIO

TITLE: MANUFACTURE OF ACTIVE MATRIX TYPE ORGANIC EL DISPLAY BODY

INVENTOR: SHIMODA TATSUYA; MIYASHITA SATORU; KIGUCHI HIROSHI

PATENT ASSIGNEE(S): SEIKO EPSON CORP, JP (CO 000236)

PATENT INFORMATION:

| PATENT NO | KIND | DATE | ERA | MAIN IPC |
|-------------|------|----------|--------|----------------|
| JP 10012377 | A | 19980116 | Heisei | (6) H05B033-10 |

JP

APPLICATION INFORMATION

ST19N FORMAT: JP1996-158671 19960619

ORIGINAL: JP08158671 Heisei

SOURCE: PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 98, No. 1

INT. PATENT CLASSIF.:

MAIN: (6) H05B033-10

SECONDARY: (6) B41J002-01

ABSTRACT:

PURPOSE: TO BE SOLVED: To manufacture an active matrix type organic EL display body at low cost by pattern-applying organic light emitting materials of red, green and blue on a base having a thin film transistor by means of ink jet.

CONSTITUTION: glass base 101, an ITO transparent picture element electrode 103 is formed after a thin film transistor 102 is formed thereon. A positive hole injection layer 104 of polyphenylene vinylene or the like is further formed thereon. This positive hole injection layer 104 is obtained by applying polytetrahydrothiophenyl phenylene of precursor followed by heating and polymerization. Organic light emitting layers 106-108 of red, green and blue are formed thereon every picture element. The organic light emitting layers are color-arranged and formed according to the pattern of each color every picture element by an ink jet printer 105. Further, A reflecting electrode 109 such as Mg, Ag or the like is formed thereon by evaporation.

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L64 ANSWER 1 OF 14 JAPIO COPYRIGHT 2000 JPO
 ACCESSION NUMBER: 1998-208243 JAPIO
 TITLE: PRODUCTION OF MAGNETIC VISIBLE RECORDING MEDIUM
 AND MAGNETIC VISIBLE RECORDING MEDIUM
 INVENTOR: CHIYOU SHIYOUTEI; KUROIWA MASAO
 PATENT ASSIGNEE(S): TOPPAN PRINTING CO LTD, JP (CO 000319)
 PATENT INFORMATION:

| PATENT NO | KIND | DATE | ERA | MAIN IPC |
|-------------|------|----------|--------|----------------|
| JP 10208243 | A | 19980807 | Heisei | (6) G11B005-84 |

JP

APPLICATION INFORMATION

ST19N FORMAT: JP1997-13896 19970128

ORIGINAL: JP09013896 Heisei

SOURCE: PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 98, No. 8

INT. PATENT CLASSIF.:

MAIN: (6) G11B005-84

SECONDARY: (6) B42D015-10; (6) G06K019-06; (6) G11B005-80

ABSTRACT:

PURPOSE: TO BE SOLVED: To prevent the failure of a magnetic visible recording part, to simplify production stages by integration and to make a surface flush by positioning a magnetic visible recording seal on one side of a metal mold, packing an injection resin into the cavity of this metal mold and integrally molding a magnetic visible recording medium.

CONSTITUTION: side where the magnetic visible recording seal 11 of a surface base material 10 formed by arranging and fixing the magnetic

visible recording seal 11 to the metal mold 21 for injection molding exists is arranged and adhered in tight contact with the surface of the metal mold 21 for injection molding. The metal molds 21, 22 for injection molding are then closed. A cavity to allow packing of a resin between the metal molds 21, 22. A prescribed amt. of the molten resin is packed from an injection port 24 into the cavity 23 and after the resin is solidified by cooling, the metal molds are opened and the magnetic visible recording medium is taken out. The magnetic visible recording seal 11 is obtd. by applying a coating material formed by dispersing microcapsules contg. flaky magnetic particles into a binder on a transparent base and further forming a colored layer thereon, then cutting the base to a prescribed size.

L64 ANSWER 2 OF 14 JAPIO COPYRIGHT 2000 JPO
 ACCESSION NUMBER: 1998-147013 JAPIO
 TITLE: IMAGE FORMING DEVICE
 INVENTOR: UEDA TAKESHI; HAYASHI YOSHIAKI
 PATENT ASSIGNEE(S): RICOH CO LTD, JP (CO 000674)
 PATENT INFORMATION:

| PATENT NO | KIND | DATE | ERA | MAIN IPC |
|-----------|------|------|-----|----------|
|-----------|------|------|-----|----------|

| | | | | |
|-------------|---|----------|--------|-----------------|
| JP 10147013 | A | 19980602 | Heisei | (6) B41J002-525 |
|-------------|---|----------|--------|-----------------|

APPLICATION INFORMATION

| | | |
|---------------|---------------|----------|
| ST19N FORMAT: | JP1996-323579 | 19961119 |
| ORIGINAL: | JP08323579 | Heisei |

SOURCE: PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 98, No. 6

INT. PATENT CLASSIF.:

| | |
|------------|---------------------------------------------------------------------------------|
| MAIN: | (6) B41J002-525 |
| SECONDARY: | (6) B41J003-44; (6) G03G015-01; (6) G03G015-01; (6) H04N001-113; (6) H04N001-23 |

ABSTRACT:

PURPOSE: TO BE SOLVED: To obtain a color print free from black blot by an arrangement wherein a recording medium is coated with a color ink according to the image on a document using a laser optical scanner as an exposing means when an electrostatic latent image is formed on a photosensitive drum and developed by applying toner thereto.

CONSTITUTION: e information inputted to a color distribution means 20 is divided into color signals representative of cyan, magenta, yellow and black which are stored in respective memories 22-28. Information stored in the memories 22-26 is then transmitted sequentially to an ink jet control means 30 and the information stored in the black memory 28 is transmitted to a laser light scan control means 32. When the image information represents a color image including black color, an image is formed on a transfer sheet by controlling ink jet of each color. Furthermore, the laser light scan control means 32

controls a laser unit to form an electrostatic latent image on a photosensitive drum and a black image is formed on the transfer sheet by applying toner thereto.

L64 ANSWER 3 OF 14 JAPIO COPYRIGHT 2000 JPO
 ACCESSION NUMBER: 1998-138633 JAPIO
 TITLE: RECORDING MATERIAL
 INVENTOR: OKAMOTO YOSHIHISA
 PATENT ASSIGNEE(S): KIMOTO & CO LTD, JP (CO 420692)
 PATENT INFORMATION:

| PATENT NO | KIND | DATE | ERA | MAIN IPC |
|-------------|------|----------|--------|----------------|
| JP 10138633 | A | 19980526 | Heisei | (6) B41M005-00 |

JP

APPLICATION INFORMATION

ST19N FORMAT: JP1996-312878 19961108
 ORIGINAL: JP08312878 Heisei
 SOURCE: PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 98, No. 5

INT. PATENT CLASSIF.:

MAIN: (6) B41M005-00
 SECONDARY: (6) B32B007-06; (6) G03F003-10

ABSTRACT:

PURPOSE: TO BE SOLVED: To enable a recording part with concealing properties to be obtained even by a recording method using a recording ink without concealing properties by sequentially laminating a concealable layer and a recording layer on a base and making the concealable layer peelable.

CONSTITUTION: recording material is of such a structure that a concealable layer 2 and a recording layer 3 are sequentially laminated on a transparent base 1. The concealable layer 2 is a layer on which the concealable part of an arbitrarily selected pattern is formed, so that the layer needs to be peeled. Therefore, by making it peelable, the concealable part can be easily obtained in accordance with the pattern of a recording part only by peeling the recording layer 3 and the concealable layer 2 after these layers 3, 2 are cut according to necessity, prior to or after recording. The concealable layer 2 consists of mainly a resin mixed with a coloring agent, applied as a coat and dried. The concealable layer 2 is 1.mu.m or more thick as a lower limit, and is preferably 5.mu.m or more thick, while the layer 2 is 250.mu.m or less thick as an upper limit, and is preferably 100.mu.m or less.

L64 ANSWER 4 OF 14 JAPIO COPYRIGHT 2000 JPO
 ACCESSION NUMBER: 1998-016258 JAPIO
 TITLE: OPTICAL INPUT TYPE PRINTING RECORDING HEAD
 INVENTOR: AKUTSU HIDEKAZU
 PATENT ASSIGNEE(S): FUJI XEROX CO LTD, JP (CO 359761)
 PATENT INFORMATION:

| PATENT NO | KIND | DATE | ERA | MAIN IPC |
|-------------|------|----------|--------|----------------|
| JP 10016258 | A | 19980120 | Heisei | (6) B41J002-32 |

JP

APPLICATION INFORMATION

ST19N FORMAT: JP1996-166984 19960627

ORIGINAL: JP08166984 Heisei

SOURCE: PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 98, No. 1

INT. PATENT CLASSIF.:

MAIN: (6) B41J002-32

SECONDARY: (6) B41J002-045; (6) B41J002-055; (6) B41J002-05

ABSTRACT:

PURPOSE: TO BE SOLVED: To achieve a simple configuration with a small size without the limit on materials to be comprised and improve the resolution of a printing dot by providing a driving power source for supplying driving current to an image recording portion by applying driving voltage to an optical conducting portion, a recording image portion, and a pattern electrode.

CONSTITUTION: V direct current bias voltage is applied from a power source portion 15 to a voltage applying electrode layer 3 and a pattern electrode layer 4 with respect to an optical input type printing recording head. A laser light beam with a 780nm original wavelength and a 50mW output is outputted so as to scan in the main scanning direction of an optical conductor layer 5 via an optical modulator 11. At the same time, a recording paper 12 and an ink ribbon 13 of a cyan color are pressed on a heat generating resistor layer 8 with a platen roll 14 with a 250g/cm pressure. As a result, the cyan color ink 13A adheres on the recording paper 12 so as to obtain a recording result of a 1.5 image optical reflection density with a printing dot 800dpi. The processing rate in the printing operation is 20mm/s.

L64 ANSWER 5 OF 14 JAPIO COPYRIGHT 2000 JPO

ACCESSION NUMBER: 1997-301566 JAPIO

TITLE: CONVEYED MATERIAL CONVEYING METHOD, SEPARATING METHOD, FROM SUCTION MATERIAL, APPLYING METHOD, AND IMAGE READING METHOD AND IMAGE RECORDING METHOD

INVENTOR: HARAGUCHI TAKESHI

PATENT ASSIGNEE(S): KONICA CORP, JP (CO 000127)

PATENT INFORMATION:

| PATENT NO | KIND | DATE | ERA | MAIN IPC |
|-------------|------|----------|--------|----------------|
| JP 09301566 | A | 19971125 | Heisei | (6) B65H005-02 |

JP

APPLICATION INFORMATION

ST19N FORMAT: JP1996-118979 19960514

ORIGINAL: JP08118979 Heisei

SOURCE: PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 97, No. 11

INT. PATENT CLASSIF.:

MAIN: (6) B65H005-02
SECONDARY: (6) G03D003-08

ABSTRACT:

PURPOSE: TO BE SOLVED: To miniaturize a device, reduce running cost, improve conveying accuracy and simplify structure by conveying conveyed material in the state of being pressed and sucked to suction material of plane shape with a resin layer having voids.
CONSTITUTION: ographic paper pulled out of a magazine M is cut into specified size through a feed roller R1 and a cutter part C so as to be formed into sheet-like photographic paper. The sheet-like photographic paper is conveyed by a belt conveying means Be with a suction face serving as a suction plate with fine unevenness formed of an aggregate of fine bubbles on the surface, and the image of an original picture O is exposed at an exposure part E. The sheet-like photographic paper is further conveyed by a plural pairs of feed rollers R2, R3, R4 and dried after each processing in an automatic developing apparatus A and discharged to the outside of the apparatus A. Exposure processing is applied to the sheet-like photographic paper at a plane part, and the sheet-like photographic paper is separated at a curved part (a part largely different in curvature) by following conveyance.

L64 ANSWER 6 OF 14 JAPIO COPYRIGHT 2000 JPO

ACCESSION NUMBER: 1995-072308 JAPIO

TITLE: IMAGE DEVICE

INVENTOR: MURANO SHUNJI; TAGUCHI AKIRA

PATENT ASSIGNEE(S): KYOCERA CORP, JP (CO. 358923)

PATENT INFORMATION:

| PATENT NO | KIND | DATE | ERA | MAIN IPC |
|-------------|------|----------|--------|----------------|
| JP 07072308 | A | 19950317 | Heisei | (6) G02B003-00 |

JP

APPLICATION INFORMATION

ST19N. FORMAT: JP1993-208449 19930729

ORIGINAL: JP05208449 Heisei

SOURCE: PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 95, No. 3

INT. PATENT CLASSIF.:

MAIN: (6) G02B003-00
SECONDARY: (6) H01L033-00

ABSTRACT:

PURPOSE: To provide an ocellar lens array which is mounted with single lenses with high accuracy and is less affected by temp. and humidity.
CONSTITUTION: The single lenses 50 are piled in two rows in tight contact with each other and the mounting accuracy is enhanced by the aligning effect of the lenses to each other. The lenses 50 are

formed by **applying** a coating material by an inject printer, etc., on the lenses to shield the light of the unnecessary lenses 54 and to separate only the necessary lenses. The array 10 of the single lenses is thus formed. The lateral peripheral parts of the lenses 50 are roughened to prevent the reflection of light and transmission preventive layers 52 contg. pigments to absorb LED light are disposed on the outer peripheries thereof, by which the movement of the light to the adjacent single lenses are prevented.

L64 ANSWER 7 OF 14 JAPIO COPYRIGHT 2000 JPO

ACCESSION NUMBER: 1994-292782 JAPIO

TITLE: MEMBER TO BE DETECTED AND PROCESSING DEVICE AND METHOD THEREFOR

INVENTOR: OSHIMA TOSHIO; NISHIDA MASAHIRO; OHASHI KUNITOSHI; HAYAKAWA KENICHI

PATENT ASSIGNEE(S): HITACHI MAXELL LTD, JP (CO 000581)
NIPPON KURESTA KK, JP (CO)

PATENT INFORMATION:

| PATENT NO | KIND | DATE | ERA | MAIN IPC |
|-------------|------|----------|--------|----------------|
| JP 06292782 | A | 19941021 | Heisei | (5) D05B069-00 |

JP

APPLICATION INFORMATION

ST19N FORMAT: JP1993-267507 19931026

ORIGINAL: JP05267507 Heisei

SOURCE: PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 94, No. 10

INT. PATENT CLASSIF.:

MAIN: (5) D05B069-00

ABSTRACT:

PURPOSE: To surely detect a desired position and to obtain a member to be detected with high processing efficiency, and to provide a processing device and a processing method by **applying** fluorescent coat which emits fluorescence by radiation of infrared rays to form a marking part as a basis.

CONSTITUTION: In the course of transporting a member 30 to be detected from a supply roller 50 through a guide member 52 to a take-up roller 51, a marking part 31 is formed in a desired position of the member 30 to be detected by a marking part forming means 32. That is, a coat which emits fluorescence by radiation of infrared rays is applied. On the other hand, in order to detect the marking part 31, a transport means 33 comprising a driving roller 33a and a driven roller 33b, a detecting means 36 comprising a light emitting element 34 and a photo-detecting element

35 and a designated processing means are sequentially disposed along the transport direction of the member 30 to be detected. A detection signal of photo detection by the photo detecting element is transmitted to a central control part 38, and after a designated arithmetic processing is conducted, the signal is transmitted to a

character display part 39 and/or a display part 41 having a buzzer 40.

L64 ANSWER 8 OF 14 JAPIO COPYRIGHT 2000 JPO
 ACCESSION NUMBER: 1993-169679 JAPIO
 TITLE: RESIDUAL INK AMOUNT DETECTION DEVICE
 INVENTOR: HIRATA TOSHITAKA
 PATENT ASSIGNEE(S): RICOH CO LTD, JP (CO 000674)
 PATENT INFORMATION:

| PATENT NO | KIND | DATE | ERA | MAIN IPC |
|-------------|------|----------|--------|-----------------|
| JP 05169679 | A | 19930709 | Heisei | (5) B41J002-175 |

JP

APPLICATION INFORMATION

ST19N FORMAT: JP1991-355850 19911220
 ORIGINAL: JP03355850 Heisei
 SOURCE: PATENT ABSTRACTS OF JAPAN, Unexamined
 Applications, Section: M, Sect. No. 1499, Vol.
 17, No. 576, P. 74 (19931020)

INT. PATENT CLASSIF.:

MAIN: (5) B41J002-175
 SECONDARY: (5) G01F023-00

ABSTRACT:

PURPOSE: To detect a residual ink amount in an ink containing bag on which an aluminum film is vapor deposited.
 CONSTITUTION: An ink containing bag 1 is made of a flexible material where an aluminum film is vapor deposited partially or over the full surface thereof. A photointerrupter 6 is composed of a light emitting element 6b and a light receiving element 6a. The photointerrupter 6 is mounted on a position where it can output a maximum power when exhaustion of ink causes the ink containing bag 1 to deflate to its maximum. The output signal of the light receiving element 6a is inputted to a detection circuit, where presence of ink is detected in accordance with the magnitude of the output signal.

APPLICATION INFORMATION

L64 ANSWER 9 OF 14 JAPIO COPYRIGHT 2000 JPO
 ACCESSION NUMBER: 1993-032018 JAPIO
 TITLE: INFORMATION PROCESSING AND DEVICE THEREFOR
 INVENTOR: TANEDA ATSUSHI; SUZUKI NAOHISA; FUKUNAGA KOJI;
 NAITO HISATSUGU; TAKAHASHI TSUTOMU; NISHIYAMA
 MASAKI; TATEYAMA JIRO
 PATENT ASSIGNEE(S): CANON INC, JP (CO 000100)
 PATENT INFORMATION:

| PATENT NO | KIND | DATE | ERA | MAIN IPC |
|-------------|------|----------|--------|----------------|
| JP 05032018 | A | 19930209 | Heisei | (5) B41J029-38 |

JP

APPLICATION INFORMATION

ST19N FORMAT: JP1991-190336 19910730
 ORIGINAL: JP03190336 Heisei
 SOURCE: PATENT ABSTRACTS OF JAPAN, Unexamined
 Applications, Section: M, Sect. No. 1430, Vol.
 17, No. 316, P. 85 (19930616)

INT. PATENT CLASSIF.:

MAIN: (5) B41J029-38
 SECONDARY: (5) G06F001-32; (5) G06F003-12; (5) G06F013-12

ABSTRACT:

PURPOSE: To provide information processing method by which to set every part in system equipment in a power saved state during non-operation time and control the parts sequentially to save electric power supply to the entire system and its device.

CONSTITUTION: The subject device is set in the ready mode, if it is reset, and the first step of a change system is this made under the control of CPU-P. In the second step, 'SLEEP' is set in a controller, if no data to be processed after completion of printing and the operation is turned to 'HALT' state. This setting leads to the sleep mode from the ready mode. 'Active mode' is only a step of its change system and the shift from the active mode to the ready mode is controlled by CPU. In the sleep mode, the first step of its change system signifies the introduction of a sheet, the operation of SW, data input and hardware interruption in CPU-P, as the shift from the sleep mode to the ready mode takes place. The second step is a shift from the sleep mode to the stop mode with no interference of the control by CPU-P.

L64 ANSWER 10 OF 14 JAPIO COPYRIGHT 2000 JPO

ACCESSION NUMBER: 1992-296561 JAPIO
 TITLE: IMAGE FORMATION DEVICE
 INVENTOR: WATANABE JUNJI
 PATENT ASSIGNEE(S): TOSHIBA CORP, JP (CO. 000307)
 PATENT INFORMATION:

| PATENT NO | KIND | DATE | ERA | MAIN IPC |
|-------------|------|----------|--------|----------------|
| JP 04296561 | A | 19921020 | Heisei | (5) B41J002-01 |

JP

APPLICATION INFORMATION

ST19N FORMAT: JP1991-62107 19910326
 ORIGINAL: JP03062107 Heisei
 SOURCE: PATENT ABSTRACTS OF JAPAN, Unexamined
 Applications, Section: M, Sect. No. 1375, Vol.
 17, No. 1, P. 136 (19930304)

INT. PATENT CLASSIF.:

MAIN: (5) B41J002-01
 SECONDARY: (5) B41M005-00; (5) G03G015-20; (5) G03G015-22;
 (5) G03G021-00

ABSTRACT:

PURPOSE: To provide an image formation device capable of preparing a

sheet on which an image can be formed using an ink
jet printer regardless of the type of a sheet, plain sheet
or recycled sheet.

CONSTITUTION: An indication mark is fixed and silicone oil is
applied to a sheet by allowing a sheet to which
the indication mark is transferred using a transfer device to pass
through fixing rollers 13a, 13b impregnated with silicone oil.

L64 ANSWER 11 OF 14 JAPIO COPYRIGHT 2000 JPO

ACCESSION NUMBER: 1991-234682 JAPIO

TITLE: INFORMATION PROCESSOR

INVENTOR: INOUE TADASHI; YOSHIDA SHIGEO; SUGINO TOSHIO

PATENT ASSIGNEE(S): CANON INC, JP (CO 000100)

PATENT INFORMATION:

| PATENT NO | KIND | DATE | ERA | MAIN IPC |
|-------------|------|----------|--------|----------------|
| JP 03234682 | A | 19911018 | Heisei | (5) B41J013-00 |

JP

APPLICATION INFORMATION

ST19N FORMAT: JP1990-31695 19900213

ORIGINAL: JP02031695 Heisei

SOURCE: PATENT ABSTRACTS OF JAPAN, Unexamined
Applications, Section: M, Sect. No. 1200, Vol.
16, No. 16, P. 139 (19920116)

INT. PATENT CLASSIF.:

MAIN: (5) B41J013-00

ABSTRACT:

PURPOSE: To maintain a record starting position by feeding a sheet
in response to the type of a recorder and the presence or absence of
cut sheets in a cut sheet supply unit by sheet feed control means
after the sheet of a recorder is fed.

CONSTITUTION: A user first sets an original in a sheet feed tray
unit M31. Here, an original sensing sensor M234 is provided
immediately before a separation roller M222. When an insertion of a
sheet is sensed, a controller on a CPU board drives a sheet feed
motor to rotate the roller M222. The roller M222 separates one lower
sheet by a frictional force to a separation pad M223, feeds the
sheet to an original end sensor M235 and stop it. When a user
outputs a FAX transmission, a copy command, etc., from a touch
panel, the controller drives a sheet feed motor, a conveying motor
to feed the sheet until the sheet is applied to
conveying rollers M224, M225, the sheet feed motor is then stopped,
and first sheet is conveyed to a reader above a read sensor M226
while eliminating to feed a second and following sheets.

L64 ANSWER 12 OF 14 JAPIO COPYRIGHT 2000 JPO

ACCESSION NUMBER: 1991-051133 JAPIO

TITLE: IMAGE RECORDING BY EXPOSURE TO LIGHT

INVENTOR: SAKAI TOSHIO

PATENT ASSIGNEE(S): RICOH CO LTD, JP (CO 000674)

PATENT INFORMATION:

| PATENT NO | KIND | DATE | ERA | MAIN IPC |
|-------------|------|----------|--------|----------------|
| JP 03051133 | A | 19910305 | Heisei | (5) B41J002-01 |

JP

APPLICATION INFORMATION

ST19N FORMAT:

JP1989-188585

19890720

ORIGINAL:

JP01188585

Heisei

SOURCE:

PATENT ABSTRACTS OF JAPAN, Unexamined

Applications, Section: M, Sect. No. 1114, Vol. 15, No. 194, P. 127 (19910520)

INT. PATENT CLASSIF.:

MAIN:

(5) B41J002-01

SECONDARY:

(5) B41J003-60; (5) B41M005-00; (5) G03G015-10

ABSTRACT:

PURPOSE: To perform linear recording with a high pixel density in a lateral direction using a small number of mechanical elements and a simple device structure by applying a voltage of specified polarity between a light transmissible electrode and a counter electrode, and irradiating a photoelectric charge generation layer with a light corresponding to an image to be recorded.

CONSTITUTION: Image forming particles in a developing liquid are attracted by a charge trapping layer 4 by applying a voltage of specified polarity between a light transmissible electrode 2 and an counter electrode 7. Then a light corresponding to an image to be recorded is emitted to a photoelectric charge generation layer 3 and thereby an electric charge of the same polarity as the polarity + of the light transmissible electrode 2 corresponding to the image in a lateral direction is formed. Next the image forming particle is trapped so that it corresponds to the image by moving the charge through the charge trapping layer 4. After this, a voltage of a reverse polarity to a specified polarity is applied to an area between the light transmissible electrode 2 and the counter electrode 7 within the range of a voltage which forms and electric field not exceeding the limits of an electric field working on a space between the charge and the image forming particle in the trap. Next a liquid is ejected from a flow path 8a through a slit 8 while untrapped image forming particle is attracted by the counter electrode 7. Thus high-density dot recording is performed in a recording line direction.

L64 ANSWER 13 OF 14 JAPIO COPYRIGHT 2000 JPO

ACCESSION NUMBER: 1988-030063 JAPIO

TITLE: SERIAL TYPE RECORDER

INVENTOR: HIRANO HIROFUMI; OKADA TORU; KATO MINORU; WAKAZAWA TORU

PATENT ASSIGNEE(S): CANON INC, JP (CO 000100)

CANON ELECTRONICS INC, JP (CO 365668)

PATENT INFORMATION:

| PATENT NO | KIND | DATE | ERA | MAIN IPC |
|-------------|------|----------|-------|-----------------|
| JP 63030063 | A | 19880208 | Showa | (4) H04N001-024 |

JP

APPLICATION INFORMATION

ST19N FORMAT: JP1986-173483 19860723
 ORIGINAL: JP61173483 Showa
 SOURCE: PATENT ABSTRACTS OF JAPAN, Unexamined Applications, Section: E, Sect. No. 630, Vol. 12, No. 239, P. 123 (19880707)

INT. PATENT CLASSIF.:

MAIN: (4) H04N001-024
 SECONDARY: (4) G06F015-64; (4) G06K015-00; (4) G06K017-00;
 (4) H04N001-04
 ADDITIONAL: (4) B41J003-00; (4) B41J003-46

ABSTRACT:

PURPOSE: To execute both recording and image input with simple structure by providing a print recording means and an optical read means being of contact structure formed by the thin film vapor-deposition method on one base of a recording head.
 CONSTITUTION: A base 20 of a recording head 12 is used in common and the print recording means 21 and the optical read means 22 are formed on its surface. The print record means 21 has thin film vapor deposition structure offering ease of forming a minute pattern and having excellent heat response and the optical read means 22 has a structure where plural LED formed by the thin film vapor deposition process are welded thermally. In case of the recording, a sheet is supplied and set to a recorder, a recording head 12 is landed down to apply recording. In case of the reading, an original is loaded into the recorder and set to a prescribed position, and the original is read optically while the picture on the original is being scanned. The read picture data are stored in an external recording means such as a floppy disk drive and preserved. After the processing is finished, the recorder is restored to the initial state.

L64 ANSWER 14 OF 14 JAPIO COPYRIGHT 2000 JPO
 ACCESSION NUMBER: 1987-064555 JAPIO
 TITLE: INK JET RECORDER
 INVENTOR: SUZUKI KATSUMI; TAMURA SAKAE
 PATENT ASSIGNEE(S): TOSHIBA CORP, JP (CO 000307)
 PATENT INFORMATION:

| PATENT NO | KIND | DATE | ERA | MAIN IPC |
|-------------|------|----------|-------|----------------|
| JP 62064555 | A | 19870323 | Showa | (4) B41J003-04 |

JP

APPLICATION INFORMATION

ST19N FORMAT: JP1985-204801 19850917
 ORIGINAL: JP60204801 Showa

SOURCE: PATENT ABSTRACTS OF JAPAN, Unexamined
Applications, Section: M, Sect. No. 618, Vol.
11, No. 258, P. 142 (19870821)

INT. PATENT CLASSIF.:

MAIN: (4) B41J003-04

ABSTRACT:

PURPOSE: To stabilize an ink meniscus by setting the tip of an upper recording head backward by a prearranged length from the tip of a lower recording head, coating the upper surface of the tip of the upper recording head with a lyophilic substance and the upper surface of the tip of the lower recording head with a lyophobic substance.

CONSTITUTION: The upper surface of the tip of a lower recording head 1 on a recording head H is coated with an oleophilic substance 21, whilst the upper surface of the tip of an upper recording head 2 is covered with an oleophobic substance 22. A fluororesin fluoro coating material is used as an oleophilic substance 21, and is applied as a coat having a thickness of 1-2.mu.m.

In addition, polyvinyl alcohol is used as an oleophobic substance 22 and is applied evenly as a coat about 5-10.mu.m thick. Thus it is possible to maintain an ink meniscus in the tip of a recording head always in stable condition and subsequently assure satisfactory printing.

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DERWENT WEEK FOR POLYMER INDEXING: 200014

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L66 ANSWER 1 OF 18, WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
ACCESSION NUMBER: 2000-129303 [12] WPIDS

DOC. NO. NON-CPI: N2000-097469
 DOC. NO. CPI: C2000-040008
 TITLE: Organic electroluminescent light
 emission display element
 manufacturing method - involves removing solvent
 discharged on substrate in room temperature at
 specific vacuum, and then drying substrate at
 particular temperature.
 DERWENT CLASS: L03 U11 U14 X26
 PATENT ASSIGNEE(S): (SHIH) SEIKO EPSON CORP
 COUNTRY COUNT: 1
 PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG | MAIN | IPC |
|-------------|------|----------|-----------|----|----|------------|-----|
| JP 11339957 | A | 19991210 | (200012)* | | 4 | H05B033-10 | |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|-------------|------|----------------|----------|
| JP 11339957 | A | JP 1998-144901 | 19980526 |

DOC. NO. NON-CPI: N2000-097469
 DOC. NO. CPI: C2000-040008
 PRIORITY APPLN. INFO: JP 1998-144901 19980526
 INT. PATENT CLASSIF.:
 MAIN: H05B033-10
 SECONDARY: C09K011-00; C09K011-06; H05B033-14

BASIC ABSTRACT:

JP 11339957 A UPAB: 20000308

NOVELTY - A solution containing precursor of **polyphenylene vinylene** and high boiling point solvent is discharged from nozzle of inkjet printer on a substrate for patterning EL material formed above the transparent electrode. The solvent is then removed at room temperature at a vacuum degree of 1 or less mmHg. The substrate is subsequently dried at 120 or 70 deg. C or less.

DETAILED DESCRIPTION - Ethylene glycol, glycerol, ethanolamine, sugar and their derivatives or their mixtures are used as high boiling point solvent.

USE - For patterning electroluminescent material in manufacture of light emission display.

ADVANTAGE - Avoids shift of wavelength to shorter side, hence brightness/irregularity is avoided completely. By using suitable solvent clogging of nozzle is prevented reliably.

DESCRIPTION OF DRAWING - The figure shows the conceptual diagram explaining discharging of EL material on TFT substrate.

Dwg. 2/2

FILE SEGMENT: CPI EPI
 FIELD AVAILABILITY: AB; GI
 MANUAL CODES: CPI: L03-H04A

EPI: U11-A15; U14-J02A; X26-J

L66 ANSWER 2 OF 18 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
 ACCESSION NUMBER: 2000-013302 [01] WPIDS
 DOC. NO. NON-CPI: N2000-010304
 DOC. NO. CPI: C2000-002557
 TITLE: Integrated circuit package.
 DERWENT CLASS: A26 A85 L03 U12 U13
 INVENTOR(S): FRIEND, R H; SIRRINGHAUS, H; TESSLER, N
 PATENT ASSIGNEE(S): (CAMB-N) CAMBRIDGE DISPLAY TECHNOLOGY LTD
 COUNTRY COUNT: 82
 PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG | MAIN | IPC |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|-----------|----|----|------------|-----|
| WO 9954936 | A1 | 19991028 | (200001)* | EN | 47 | H01L027-00 | |
| RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ UG ZW | | | | | | | |
| W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH GM HR HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZW | | | | | | | |
| AU 9936143 | A | 19991108 | (200014) | | | H01L027-00 | |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|------------|------|----------------|----------|
| WO 9954936 | A1 | WO 1999-GB1176 | 19990416 |
| AU 9936143 | A | AU 1999-36143 | 19990416 |

FILING DETAILS:

| PATENT NO | KIND | PATENT NO |
|------------|------------|------------|
| AU 9936143 | A Based on | WO 9954936 |

PRIORITY APPLN INFO: GB 1998-8061 19980416

INT. PATENT CLASSIF: H01L027-00

MAIN: H01L027-00

SECONDARY: H01L051-20

BASIC ABSTRACT:

WO 9954936 A UPAB: 20000105

NOVELTY - A switching region (15) consisting of semiconductor polymer such as polyhexylthiophene is electrically coupled to source (12), gate (14) and drain (16) of integrated transistor (10). The gate is biased to vary the flow of current through the switching region. Integrated LED (11) made of polymers is electrically coupled to the drain for receiving drive current from transistor.

DETAILED DESCRIPTION - The IC package consists of layers of transistors, resistors, capacitors, photovoltaic cells,

photoconductors, LEDs and energy storage devices. Insulating layers (18,19) between semiconductor layer (15) and the gate separates the source from the light emitting layer (17). Leads passing through the insulating layers electrically connects the switching region and the LED. The drain also acts as anode of the LED. The semiconductor polymer material has a tendency to self-organize in a lamellar structure in which layers of conjugated regions alternate with layers of non-conjugated regions. The semiconductor polymer has conjugated linear chain structure with hydrophobic side chains and they have substituents either in or pendent from its linear chain which promote ordering of adjacent polymer chains.

An INDEPENDENT CLAIM is also included for the method of forming the IC package.

USE - In e.g. IC with electrooptical elements.

ADVANTAGE - Improves electrical performance due to the promotion of ordering in semiconductor polymer. Mobilities upto 0.1 cm² divided by Vs and ON-OFF current ratios of 10⁶-10⁸ compared to the performance of amorphous silicon transistors is reached. The mechanical properties of the insulating layer resists delamination of the device or other types of mechanical failure. The conducting layers ensure uniform current injection and efficient carrier injection to the LEDs.

DESCRIPTION OF DRAWING(S) - The figure shows the cross-section of the integrated polymer transistor and polymer light emitting diode.

Integrated transistor 10

LED 11

Source 12

Gate 14

Switching region 15

Drain 16

Light emitting layer 17

Insulating layers 18,19

Dwg.2/20

FILE SEGMENT: CPI EPI

FIELD AVAILABILITY: AB; GI

MANUAL CODES: CPI: A05-J12; A12-E07C; L04-A04; L04-C11C; L04-E01; L04-E03; L04-F03

EPI: U12-B03C; U13-D04

L66 ANSWER 3 OF 18 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD

ACCESSION NUMBER: 1999-611435 [52] WPIDS

DOC. NO. NON-CPI: N1999-450522

DOC. NO. CPI: C1999-178134

TITLE: Manufacturing an organic film for organic light emitting diodes

used for full color flat panel displays.

DERWENT CLASS: L03 U11 U12

INVENTOR(S): HEBNER, T R; STURM, J C

PATENT ASSIGNEE(S): (UYPR-N) UNIV PRINCETON

COUNTRY COUNT: 84

PATENT INFORMATION:

Light emitting layer 17

Insulating layers 18,19

Dwg.2/20

FILE SEGMENT: CPI EPI

FIELD AVAILABILITY: AB; GI

| PATENT NO | KIND | DATE | WEEK | LA | PG | MAIN | IPC |
|-----------------------------------------------------------------|------|----------|-----------|----|----|------------|-----|
| WO 9953529 | A2 | 19991021 | (199952)* | EN | 24 | H01L000-00 | |
| RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC | | | | | | | |
| MW NL OA PT SD SE SL SZ UG ZW | | | | | | | |
| W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI | | | | | | | |
| GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR | | | | | | | |
| LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI | | | | | | | |
| SK SL TJ TM TR TT UA UG US UZ VN YU ZW | | | | | | | |
| AU 9936399 | A | 19991101 | (200013) | | | H01L000-00 | |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|------------|------|----------------|----------|
| WO 9953529 | A2 | WO 1999-US7970 | 19990412 |
| AU 9936399 | A | AU 1999-36399 | 19990412 |

FILING DETAILS:

| PATENT NO | KIND | PATENT NO |
|------------|------------|------------|
| AU 9936399 | A Based on | WO 9953529 |

PRIORITY APPLN. INFO: US 1998-81492 19980413

INT. PATENT CLASSIF:

MAIN: H01L000-00

BASIC ABSTRACT:

WO 9953529 A UPAB: 19991210

NOVELTY - A method (I) for manufacturing an organic film for organic light emitting diodes comprises applying dopant to areas of an organic film coated on a substrate to modify film properties in the areas.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following: a) a method for manufacturing a locally modified organic film comprising providing a substrate, applying a doped organic coating and removing the dopant from areas of the coating; b) a method (II) of manufacturing a locally modified organic film comprising providing a first doped layer, providing a second layer on the first and transferring the dopant from the first layer to the second organic layer; c) a method as (II) where the dopant was applied to the first layer in a pattern and is transferred to the second layer in the pattern; d) a method of locally modifying properties of organic film for an organic light emitting diode as (I) where the dopant is caused to migrate into the organic coating; e) a method of manufacturing a locally modified organic film comprising covering an organic layer with a patterned barrier, applying dopant over the layer and barrier and causing the dopant to migrate into the organic film in areas exposed through the barrier.

USE - Used for organic light emitting

diodes used for full color flat panel displays.

ADVANTAGE - The invention provides a locally modified organic film without using photolithography and etching and requires only blanket film to be deposited instead of multiple layers as in prior art.

DESCRIPTION OF DRAWING(S) - The drawing shows application of dye to a PVK film.

Dwg. 1a/21

FILE SEGMENT: CPI; EPI
FIELD AVAILABILITY: AB; GI
MANUAL CODES: CPI: L03-G05; L04-E03A
EPI: U11-C02J1X; U11-C02J7; U12-A01A1X

L66 ANSWER 4 OF 18 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD

ACCESSION NUMBER: 1999-564030 [48] WPIDS

DOC. NO. NON-CPI: N1999-416912

DOC. NO. CPI: C1999-164692

TITLE: Producing a multicolor organic light emitting device incorporating light-emitting polymers.

DERWENT CLASS: A32 A85 L03 P42 U11 U12 U14

INVENTOR(S): BURROUGHS, J H; LACEY, D J; MURPHY, C E; PICHLER,

PATENT ASSIGNEE(S): (CAMB-N) CAMBRIDGE DISPLAY TECHNOLOGY LTD

COUNTRY COUNT: 2

PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG | MAIN | IPC |
|-------------|------|----------|-----------|----|----|------------|-----|
| GB 2336553 | A | 19991027 | (199948)* | | 29 | B05D001-26 | |
| DE 19918193 | A1 | 19991125 | (200002) | | | H01L051-40 | |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|-------------|------|------------------|----------|
| GB 2336553 | A | GB 1999-9418 | 19990423 |
| DE 19918193 | A1 | DE 1999-19918193 | 19990422 |

PRIORITY APPLN. INFO: GB 1998-8806 19980424

INT. PATENT CLASSIF.:

MAIN: B05D001-26; H01L051-40
SECONDARY: B05D001-30; H05B033-14

BASIC ABSTRACT:

GB 2336553 A UPAB: 19991122

NOVELTY - Solution processable organic material is supplied through a bore (10) from a reservoir (14) to a nozzle adjacent a substrate (2), so that the material exits the nozzle under a combination of gravitational force and wetting tension from the contact between the material and the substrate.

USE - Producing an active component for an optic, electronic or

optoelectronic device (all claimed), especially patterned and/or multicolor organic light-emitting devices (OLED), and particularly those incorporating light-emitting polymers (LEP). Also patterned color filters for LCDs, patterned fluorescent films, photodiodes and photovoltaic cells, thin film transistors, diodes, triodes, opto-couplers, and image intensifiers.

ADVANTAGE - The method is compatible with organic materials, and much more suitable for forming pixels with dimensions in excess of 50 microns than ink-jet printing.

DESCRIPTION OF DRAWING(S) - The figure shows a cross-section of the deposition apparatus.

substrate 2

anode material 4

deposition material separators 6

bore 10

connecting tube 12

material reservoir 14

Dwg.1/13

FILE SEGMENT: CPI EPI GMPI

FIELD AVAILABILITY: AB; GI

MANUAL CODES: CPI: A09-A02; A11-B05D; A12-E11; A12-L03; L03-D01D;
L03-G02; L03-G05B; L04-C06; L04-C26; L04-E01;
L04-E03; L04-E05D
EPI: U11-C01J5; U12-A01A1X; U12-A02A2X; U12-A02A3;
U12-A02B2A; U12-A02B5X; U14-K01A1C

L66 ANSWER 5 OF 18 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD

ACCESSION NUMBER: 1999-562284 [47] WPIDS

DOC. NO. NON-CPI: N1999-415419

DOC. NO. CPI: C1999-164069

TITLE: Display, e.g. electroluminescent device,
having little variation in film thickness between pixels.

DERWENT CLASS: L03 P81 P85 U14 X26

INVENTOR(S): KIGUCHI, H; MIYAJIMA, H; SEKI, S; YUDASAKA, I

PATENT ASSIGNEE(S): (SHIH) SEIKO EPSON CORP

COUNTRY COUNT: 22

PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG | MAIN | IPC |
|-----------|------|------|------|----|----|------|-----|
|-----------|------|------|------|----|----|------|-----|

| | | | | | | | |
|------------|----|----------|-----------|----|----|------------|--|
| WO 9948339 | A1 | 19990923 | (199947)* | JA | 97 | H05B033-22 | |
|------------|----|----------|-----------|----|----|------------|--|

RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

W: CN JP KR US

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|-----------|------|-------------|------|
|-----------|------|-------------|------|

| | | | |
|------------|----|----------------|----------|
| WO 9948339 | A1 | WO 1999-JP1327 | 19990317 |
|------------|----|----------------|----------|

PRIORITY APPLN. INFO: JP 1999-32123 19990210; JP 1998-67508
19980317

INT. PATENT CLASSIF.:

MAIN: H05B033-22
SECONDARY: G02B005-20; G09F009-00; G09F009-30; H01L027-15;
H01L029-28; H01L029-78; H05B033-10

BASIC ABSTRACT:

WO 9948339 A UPAB: 19991116

NOVELTY - Arranged on a substrate are **pixels** formed by an **ink-jet** method in regions to be coated and partitioned by banks formed so as to satisfy the formulae: a greater than $d/4$, $d/2$ less than b less than $5d$, c greater than t_0 , c greater than $(1/2)$ multiply (d/b) , where a = bank width, c = bank height, b = width of the regions to be coated, d = diameter of droplets of a liquid material for forming a thin film, and t_0 = thickness of the thin film.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are given for methods of modifying the surface. One method comprises forming banks of an organic material on an inorganic bank forming surface, and performing a plasma processing under an excessive fluorine condition. Another method comprises performing oxygen gas plasma processing of a substrate having banks formed of an organic material, and then performing fluorine-based gas plasma processing.

USE - Display device.

Dwg. 1/25

FILE SEGMENT: CPI EPI GMPI
FIELD AVAILABILITY: AB; GI
MANUAL CODES: CPI: L03-G02; L03-G05; L03-H04A; L04-E
EPI: U14-J02; X26-J

L66 ANSWER 6 OF 18 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
ACCESSION NUMBER: 1999-550788 [46] WPIDS
DOC. NO. NON-CPI: N1999-407569
DOC. NO. CPI: C1999-160609

TITLE: Organic light emitting devices for flat panel displays with improved gray scale performance.

DERWENT CLASS: A26 A85 L03 P85 T04

INVENTOR(S): BURROUGHS, J H; FRIEND, R H; HEEKS, S K; KIMURA, M
PATENT ASSIGNEE(S): (CAMP-N) CAMBRIDGE DISPLAY TECHNOLOGY LTD; (SHIH) SEIKO EPSON CORP

COUNTRY COUNT: 82

PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG | MAIN | IPC |
|-----------|------|------|------|----|----|------|-----|
|-----------|------|------|------|----|----|------|-----|

| | | | | | | | |
|------------|----|----------|-----------|----|----|------------|--|
| WO 9942983 | A1 | 19990826 | (199946)* | EN | 22 | G09G003-32 | |
|------------|----|----------|-----------|----|----|------------|--|

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC
MW NL OA PT SD SE SZ UG ZW

W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI
GB GE GH GM HR HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT

LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL
 TJ TM TR TT UA UG US UZ VN YU ZW
 AU 9925290 A 19990906 (200003) G09G003-32

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|------------|------|---------------|----------|
| WO 9942983 | A1 | WO 1999-GB383 | 19990205 |
| AU 9925290 | A | AU 1999-25290 | 19990205 |

FILING DETAILS:

| PATENT NO | KIND | PATENT NO |
|------------|------------|------------|
| AU 9925290 | A Based on | WO 9942983 |

PRIORITY APPLN. INFO: GB 1998-3441 19980218
 INT. PATENT CLASSIF.:

MAIN: G09G003-32

BASIC ABSTRACT:

WO 9942983 A UPAB: 19991110

NOVELTY - The **electroluminescent** display comprises an active matrix of organic light emitting **pixels** each with its own switching and driving means. Each **pixel** can cycle from a low power non-emissive mode to a high power fully on state with the relative duration of the modes determining the brightness of the **pixel**.

DETAILED DESCRIPTION - The **electroluminescent** display comprises an active matrix of organic light emitting **pixels** each with its own switching and driving means. Each **pixel** can cycle from a low power non-emissive mode to a high power fully on state with the relative duration of the modes determining the brightness of the **pixel**. In an alternative embodiment each **pixel** is divided up into a number of areas of different sizes so that by addressing different **pixel** areas with different relative mode duration different levels of brightness of emission can be achieved. In this way a gray scale display with improved brightness and sharpness is possible.

(A) An organic light emitting device comprising; (a) An organic light emitting region comprising a number of **pixels** each having a means for switching power to it. (b) A means of driving each switch to cycle between a first low power mode and a second high power mode at a frequency sufficient to cause light emission from the associated **pixel** to appear substantially continuous. The duration of the high power relative to the low power modes is variable so as to vary the brightness of the **pix l**.

An INDEPENDENT CLAIM is also included (B) for the claimed device in which each **pix l** comprises at least two independent light emitting areas with a switching means for each area and a control means for addressing each **pixel** by its

associated switch arrangement and controlling the brightness of each pixel by selectively driving one or more of the switches to cause selected areas of the pixel to emit light.

USE - Electroluminescent flat panel displays

ADVANTAGE - The device has improved brightness and sharpness in gray scale displays.

DESCRIPTION OF DRAWING(S) - The drawing shows a plan view of the circuitry associated with pixels of an organic light emitting device including; (10) scan line, (11a-d) signal lines, (12) common line, (13a-d) switching transistors, (14a-d) storage capacitors, (15a-d) current transistors, (18a-d) electrode pads, (19a-d) light emitting areas.

Dwg.3/8

FILE SEGMENT: CPI EPI GMPI
FIELD AVAILABILITY: AB; GI
MANUAL CODES: CPI: A05-J; A12-E11; L03-G05
 EPI: T04-H03B; T04-H03C3

L66 ANSWER 7 OF 18 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD

ACCESSION NUMBER: 1999-508959 [42] WPIDS

DOC. NO. NON-CPI: N1999-379268

DOC. NO. CPI: C1999-148791

TITLE: Method of forming an organic light-emitting display device

DERWENT CLASS: A26 A85 L03 U14

INVENTOR(S): CARTER, J C; FRIEND, R H; HEEKS, S K; PICHLER, K; TOWNS, C R; WITTMAN, H F; YUDASAKA, I

PATENT ASSIGNEE(S): (CAMB-N) CAMBRIDGE DISPLAY TECHNOLOGY LTD; (SHIH) SEIKO EPSON CORP

COUNTRY COUNT: 82

PATENT INFORMATION:

PATENT NO. KIND DATE WEEK LA PG MAIN IPC

WO 9943031 A1 19990826 (199942)* EN 31 H01L051-20

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC

MW NL OA PT SD SE SZ UG ZW

W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI

GB GE GH GM HR HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT

LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL

TJ TM TR TT UA UG US UZ VN YU ZW

AU 9926304 A 19990906 (200003) H01L051-20

CN 1233929 A 19991103 (200011) H05B033-14

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|------------|------|----------------|----------|
| WO 9943031 | A1 | WO 1999-GB530 | 19990219 |
| AU 9926304 | A | AU 1999-26304 | 19990219 |
| CN 1233929 | A | CN 1999-103116 | 19990223 |

FILING DETAILS:

| PATENT NO | KIND | PATENT NO |
|------------|------------|------------|
| AU 9926304 | A Based on | WO 9943031 |

PRIORITY APPLN. INFO: GB 1998-3763 19980223
 INT. PATENT CLASSIF.:

MAIN: H01L051-20; H05B033-14
 SECONDARY: C09K011-06; H01L027-15

BASIC ABSTRACT:

WO 9943031 A UPAB: 19991014

NOVELTY - A display device is formed by **depositing** a thin-film transistor switch circuit (15) on a substrate (17), **ink-jet** printing a light transmissive conductive organic electrode layer (32) contacting the output of the transistor circuit and depositing an active region (33) over the electrode.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following: (a) a display device formed as above; and (b) a method as above in which an organic light-emitting layer is **deposited** over the electrode layer.

USE - An organic **light-emitting display device** (claimed).

ADVANTAGE - Devices have good performance and can be multicolor display devices.

DESCRIPTION OF DRAWING(S) - A cross-section of the device is shown.

Thin film transistor 15

Substrate 17

Electrode layer 32

Dwg.8/13

FILE SEGMENT: CPI EPI

FIELD AVAILABILITY: AB; GI

MANUAL CODES: CPI: A12-E11A; L04-C11C; L04-E01; L04-E03
 EPI: U14-J01; U14-J02

L66 ANSWER 8 OF 18 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD

ACCESSION NUMBER: 1999-494140 [41] WPIDS

DOC. NO. NON-CPI: N1999-368090

DOC. NO. CPI: C1999-144805

TITLE: **Ink jet** printing fabrication of organic semiconductor devices.

DERWENT CLASS: A32 A85 E23 G02 G05 L03 U11 U12

INVENTOR(S): HEBNER, T R; MARCY, D; STURM, J C; WU, C C

PATENT ASSIGNEE(S): (UYPR-N) UNIV PRINCETON

COUNTRY COUNT: 81

PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG | MAIN | IPC |
|------------|------|----------|-----------|----|----|------------|-----|
| WO 9939373 | A2 | 19990805 | (199941)* | EN | 28 | H01L021-02 | |

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC
MW NL OA PT SD SE SZ UG ZW

W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI
GB GE GH GM HR HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT
LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL
TJ TM TR TT UA UG UZ VN YU ZW

AU 9924815 A 19990816 (200002) H01L021-02

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|------------|------|----------------|----------|
| WO 9939373 | A2 | WO 1999-US1914 | 19990129 |
| AU 9924815 | A | AU 1999-24815 | 19990129 |

FILING DETAILS:

| PATENT NO | KIND | PATENT NO |
|------------|------------|------------|
| AU 9924815 | A Based on | WO 9939373 |

PRIORITY APPLN. INFO: US 1999-238708 19990128; US 1998-73068

INT. PATENT CLASSIF.: 19980130
H01L021-02

BASIC ABSTRACT: MAIN: H01L021-02

WO 9939373 A UPAB: 19991011

NOVELTY - A pattern of an organic material (14) is deposited on a substrate (10) by ink jet printing (12) the organic material in a solvent and evaporating the solvent.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(a) a process for making organic light-emitting diodes as above;

(b) a process of forming an active or passive matrix comprising depositing electrode lines or bottom electrodes onto a substrate by ink jet printing, depositing organic polymers, depositing top contacts or electrodes with the polymer being crossed by the top contacts in the passive matrix and the bottom electrodes being connected to circuitry in the active matrix; and

(c) a process of forming thin film field effect transistors comprising forming a gate insulator over a gate electrode on a substrate, ink jet printing a polymer semiconductor layer on the insulator and forming source and drain contacts.

USE - In forming organic semiconductor devices such as light-emitting diodes, active and passive matrices and thin film field effect transistors (claimed)

ADVANTAGE - Devices can be formed simply using commercially available ink jet printers and the complexities of shadow masking are avoided.

DESCRIPTION OF DRAWING(S) - The drawing shows the steps in the

(1) a process for making organic light-emitting diodes as above;

(2) a process of forming an active or passive matrix comprising depositing electrode lines or bottom electrodes onto a substrate by ink jet printing, depositing organic polymers, depositing top contacts or electrodes with the polymer being crossed by the top contacts in the passive matrix and the bottom electrodes being connected to circuitry in the active matrix; and

(3) a process of forming thin film field effect transistors comprising forming a gate insulator over a gate electrode on a substrate, ink jet printing a polymer semiconductor layer on the insulator and forming source and drain contacts.

process.

Substrate 10

~~Ink jet droplets 12~~

Dwg. 6A/15

FILE SEGMENT: CPI EPI

FIELD AVAILABILITY: AB; GI; DCN

MANUAL CODES: CPI: A11-B05D; A12-E07C; A12-E11A; E24-A02;
 G02-A05; G02-A05B; G05-F03; L03-D01D; L04-E;
 L04-E03A
 EPI: U11-C04D2; U11-C18B4; U12-A01A1X

L66 ANSWER 9 OF 18 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD

ACCESSION NUMBER: 1999-083551 [08] WPIDS

DOC. NO. NON-CPI: N1999-060281

DOC. NO. CPI: C1999-025328

TITLE: Luminescent layer composition for an
electroluminescent element - comprising a
 poly-allylene vinylene type precursor for forming
 the layer, and a fluorescent dye for changing the
 luminescence characteristic..

DERWENT CLASS: A12 A85 E24 L03 U11 U12 U14 X26

INVENTOR(S): KANBE, S; KIGUCHI, H; SEKI, S

PATENT ASSIGNEE(S): (SHIH) SEIKO EPSON CORP

COUNTRY COUNT: 27

PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG | MAIN | IPC |
|----------------------------------------------------------------------------------|------|----------|-----------|----|----|------------|-----|
| EP 892028 | A2 | 19990120 | (199908)* | EN | 44 | C09K011-06 | |
| R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI | | | | | | | |
| JP 11040358 | A | 19990212 | (199917) | | 14 | H05B033-14 | |
| JP 11054270 | A | 19990226 | (199919) | | 15 | H05B033-10 | |
| CN 1220404 | A | 19990623 | (199943) | | | G02F001-00 | |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|-------------|------|----------------|----------|
| EP 892028 | A2 | EP 1998-113051 | 19980714 |
| JP 11040358 | A | JP 1997-191681 | 19970716 |
| JP 11054270 | A | JP 1997-204697 | 19970730 |
| CN 1220404 | A | CN 1998-117263 | 19980716 |

PRIORITY APPLN. INFO: JP 1997-204697 19970730; JP 1997-191681
 19970716

INT. PATENT CLASSIF.:

MAIN: C09K011-06; G02F001-00; H05B033-10; H05B033-14
 SECONDARY: B41J002-01; C08G061-02; C09D011-00; C09D165-04;
 H05B033-28

BASIC ABSTRACT:

EP 892028 A UPAB: 19990224

A composition for an organic electrolumin sc nt (EL) element for forming a luminescent layer(s) having a certain colour, comprises: (a) a precursor of a conjugated organic polymer compound, for forming the layer; and (b) a fluorescent dye(s) for changing the luminescence characteristic of the luminescent layer. Also claimed is the manufacture of the organic EL element, comprising coating a pattern by discharging a composition containing (a) from a head by an ink-jet method, and forming a luminescent layer(s) for a certain colour by conjugating (a).

ADVANTAGE - The composition allows high precision patterning using a simple, rapid method to provide a thin film having high durability and high luminescence efficiency.

Dwg.0/5

FILE SEGMENT: CPI EPI
FIELD AVAILABILITY: AB; DCN
MANUAL CODES: CPI: A05-J; A10-D; A11-B05; A12-E11A; E24-A;
L03-C02C
EPI: U11-A15; U12-B03C; U14-J; X26-J

L66 ANSWER 10 OF 18 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD

ACCESSION NUMBER: 1998-427890 [36] WPIDS

DOC. NO. CPI: C1998-129075

TITLE: Method for tailoring viscosity of conjugated polymer precursor - comprising synthesising precursor by polymerisation and applying shear to reactants so as to define viscosity of precursor at desired value.

DERWENT CLASS: A26 A85 L03 U14

INVENTOR(S): GRIZZI, I; TOWNS, C

PATENT ASSIGNEE(S): (CAMB-N) CAMBRIDGE DISPLAY TECHNOLOGY LTD

COUNTRY COUNT: 19

PATENT INFORMATION: The composition allows high precision patterning using a simple, rapid method to provide a thin film having high durability and high luminescence efficiency.

| PATENT NO | KIND | DATE | WEEK | LA | PG | MAIN | IPC |
|------------|------|----------|-----------|----|----|------------|-----|
| WO 9832783 | A1 | 19980730 | (199836)* | EN | 20 | C08G061-02 | |
| GB 2335430 | A | 19990922 | (199941) | | | C08G061-02 | |

RW: AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE

W: DE GB JP US

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|------------|------|---------------|----------|
| WO 9832783 | A1 | WO 1998-GB214 | 19980126 |
| GB 2335430 | A | WO 1998-GB214 | 19980126 |
| | | GB 1999-12582 | 19990528 |

FILING DETAILS:

COUNTRY COUNT: 19

PATENT INFORMATION:

| PATENT NO | KIND | PATENT NO |
|------------|------------|------------|
| GB 2335430 | A Based on | WO 9832783 |

PRIORITY APPLN. INFO: GB 1997-1680 19970128

INT. PATENT CLASSIF.:

MAIN: C08G061-02

BASIC ABSTRACT:

WO 9832783 A UPAB: 19980916

A method for tailoring the viscosity of a conjugated polymer precursor comprises synthesising the precursor by a polymerisation reaction and, during the polymerisation reaction, applying a shear to the reactants of the polymerisation reaction so as to define the viscosity of the precursor at a desired value.

Also claimed are (I) a conjugated polymer precursor having a viscosity of less than 200cps (II) conjugated polymer precursor having a viscosity of less than 50cps (III) poly(p-phenylene vinylene) precursor: and (IV) a method of applying a coating of a conjugated polymer material, comprising ink-jet printing a precursor of the conjugated polymer material that has a viscosity less than 5 cps.

Pref. the shear is imposed for substantially the whole duration of the synthesis reaction. The conditions of the polymerisation reaction are selected so as to define the viscosity of the precursor at the desired value. The duration of the polymerisation reaction is between 60 and 120 seconds. Method opt. comprises a further step of removing low molecular weight components remaining after the synthesis; and/or adding a salt to the synthesised precursor so as to define the viscosity of the precursor at the desired value. The viscosity of the resulting precursor is less than 100cps (less than 200cps). The precursor is a poly(p-phenylene vinylene) precursor. The salt is an organic salt or is a soluble salt and/or a salt having a high lattice energy. The salt decomposes at a temperature below 3500C and is esp. an ammonium salt. The quantity of salt added is in the range from 0.01w/v% to 1.0w/v% of the precursor. The salt is added to the precursor after completion of the synthesis.

USE - Method is for tailoring the viscosity of conjugated polymer precursor. Solutions are used in manufacture of electroluminescent devices.

ADVANTAGE - Device is efficient and has high photoluminescence efficiency.

Dwg. 1/4

FILE SEGMENT: CPI EPI
 FIELD AVAILABILITY: AB; GI
 MANUAL CODES: CPI: A05-J; A10-D; A11-A; A11-B05; A12-E11A;
 L03-D05A
 EPI: U14-H01E

L66 ANSWER 11 OF 18 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD

ACCESSION NUMBER: 1998-378033 [32] WPIDS

DOC. NO. NON-CPI: N1998-303016

DOC. NO. CPI: C1998-117651
 TITLE: High resolution multicolour display device - has red, green and-or blue fluorescent dyes ink jet printed in predetermined configuration onto front surface of transparent substrate.
 DERWENT CLASS: A85 E14 L03 W01 W03 W05 X22 X26
 INVENTOR(S): FORREST, S R; THOMPSON, M E
 PATENT ASSIGNEE(S): (UYPR-N) UNIV PRINCETON; (UYSC-N) UNIV SOUTHERN CALIFORNIA
 COUNTRY COUNT: 82
 PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG | MAIN | IPC |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|-----------|----|----|------------|-----|
| WO 9828946 | A1 | 19980702 | (199832)* | EN | 25 | H05B033-12 | |
| RW: AT BE CH DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG ZW | | | | | | | |
| W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH GW HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZW | | | | | | | |
| AU 9857123 | A | 19980717 | (199848) | | | H05B033-12 | |
| EP 958714 | A1 | 19991124 | (199954) | EN | | H05B033-12 | |
| R: AL AT BE CH DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI | | | | | | | |
| US 6013982 | A | 20000111 | (200010) | | | H01J001-62 | |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|------------|------|-----------------|----------|
| WO 9828946 | A1 | WO 1997-US23635 | 19971223 |
| AU 9857123 | A | AU 1998-57123 | 19971223 |
| EP 958714 | A1 | EP 1997-953361 | 19971223 |
| | | WO 1997-US23635 | 19971223 |
| US 6013982 | A | US 1996-772333 | 19961223 |

FILING DETAILS:

| PATENT NO | KIND | PATENT NO |
|------------|-------------|------------|
| AU 9857123 | A Based on | WO 9828946 |
| EP 958714 | A1 Based on | WO 9828946 |

PRIORITY APPLN. INFO: US 1996-772333 19961223

INT. PATENT CLASSIF.:

MAIN: H01J001-62; H05B033-12

SECONDARY: B32B007-00; H05B033-14

BASIC ABSTRACT:

WO 9828946 A UPAB: 19980826

The display includes a transparent substrate (22), such as glass, and red, green and/or blue fluorescent dyes (21) ink

| | | |
|------------|----|----------|
| WO 9828946 | A1 | 19971223 |
| AU 9857123 | A | 19971223 |
| EP 958714 | A1 | 19971223 |
| | | 19971223 |
| US 6013982 | A | 19961223 |

jet printed onto a front side of the substrate to create an image with predetermined configuration. The image is then exposed to ultraviolet or other short wavelength radiation to activate the dyes and create a luminous display. Preferably, a layer of transparent, conductive material (23) is then deposited over the dyes.

A layer of organic, blue light emitting device (OBLED) (24) is then deposited over the transparent conductive layer, and a conductive layer is deposited over the OBLED layer. Electrical contacts (25) are then placed on the OBLED in each of the red, green and blue light emitting regions, to facilitate the application of a potential across the conductive layers which illuminates the OBLED layer, producing a blue emission, which stimulates fluorescent emission in the dyes.

Also claimed are a vehicle, a printer and a telecommunications device incorporating the display.

The fluorescent dye material comprises one or more fluorescent dyes and a matrix material.

The matrix material is selected from polymethylmethacrylate, polybutadiene, polyvinyl-carbazole, polyesters and N,N'-diphenyl-N,N' bis(3-methylphenyl)-1,1'-biphenyl-4,4'-diamine

USE - For computer, television, telecommunications device, vehicle, billboard or sign, theatre or stadium screen. In xerography.

Dwg.2/2

FILE SEGMENT: CPI EPI
FIELD AVAILABILITY: AB; GI; DCN
MANUAL CODES: CPI: A12-E11; E24-A; L03-G05; L03-H04A
EPI: W01-C01A2; W03-A08C; W03-A08X; W05-E01B;
X22-E; X26-J

L66 ANSWER 12 OF 18 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
ACCESSION NUMBER: 1998-323113 [28] WPIDS
DOC. NO. NON-CPI: N1998-252655
DOC. NO. CPI: C1998-099447
TITLE: Method of producing organic electroluminescence elements - comprises forming pixel electrodes on transparent substrate and pattern-forming light emitting layers using ink-jet system..

DERWENT CLASS: A85 L03 P85 U14 X26
INVENTOR(S): KANBE, S; KIGUCHI, H; MIYASHITA, S; SHIMODA, T
PATENT ASSIGNEE(S): (SHIH) SEIKO EPSON CORP
COUNTRY COUNT: 21
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG | MAIN | IPC |
|--------------------------------------------------------|------|----------|-----------|----|----|------------|-----|
| WO 9824271 | A1 | 19980604 | (199828)* | JA | 10 | H05B033-10 | |
| RW: AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE | | | | | | | |
| W: CN KR US | | | | | | | |
| JP 10153967 | A | 19980609 | (199833) | | 8 | G09F009-30 | |

EP 880303 A1 19981125 (199851) EN H05B033-10
 R: DE FR GB IT NL
 CN 1212114 A 19990324 (199931) H05B033-10

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|-------------|------|----------------|----------|
| WO 9824271 | A1 | WO 1997-JP4283 | 19971125 |
| JP 10153967 | A | JP 1996-313828 | 19961125 |
| EP 880303 | A1 | EP 1997-913435 | 19971125 |
| | | WO 1997-JP4283 | 19971125 |
| CN 1212114 | A | CN 1997-192546 | 19971125 |

FILING DETAILS:

| PATENT NO | KIND | PATENT NO |
|-----------|-------------|------------|
| EP 880303 | A1 Based on | WO 9824271 |

PRIORITY APPLN. INFO: JP 1996-313828 19961125

INT. PATENT CLASSIF.:

MAIN: G09F009-30; H05B033-10

SECONDARY: G09K011-00; H05B033-12; H05B033-14

BASIC ABSTRACT:

WO 9824271 A UPAB: 19980715

A method of producing organic EL elements includes a step for forming pixel electrodes (801,803,803) on a transparent substrate (804), and a step for pattern-forming light-emitting layers (806,807,808) of an organic compound on the pixel electrodes relying on an ink-jet system. This makes it possible to easily effect the patterning within short periods of time while maintaining precision, to easily design the films, to optimise the light-emitting property, and to easily adjust the light-emitting efficiency.

Dwg.0/1

FILE SEGMENT: CPI EPI GMPI

FIELD AVAILABILITY: AB

MANUAL CODES: CPI: A12-E11A; L03-C04
 EPI: U14-J01; X26-J

L66 ANSWER 13 OF 18 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD

ACCESSION NUMBER: 1998-317709 [28] WPIDS

DOC. NO. NON-CPI: N1998-249304

TITLE: Lift-off method for manufacturing multi coloured display thin film

electroluminescence element - involves

peeling sublayer film from background by irradiating laser light of photon energy intermediate between band gaps of sublayer and upper film materials.

DERWENT CLASS: P84 U11 U14

PATENT ASSIGNEE(S): (FJIE) FUJI ELECTRIC CO LTD
 COUNTRY COUNT: 1
 PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG | MAIN | IPC |
|-------------|------|----------|-----------|----|----|------------|-----|
| JP 10115934 | A | 19980506 | (199828)* | | 6 | G03F007-26 | |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|-------------|------|----------------|----------|
| JP 10115934 | A | JP 1996-268220 | 19961009 |

PRIORITY APPLN. INFO: JP 1996-268220 19961009
 INT. PATENT CLASSIF.:

MAIN: G03F007-26
 ADDITIONAL: H05B033-10

BASIC ABSTRACT:

JP 10115934 A UPAB: 19980715

The method involves forming a two layer thin film with a sublayer film (F2) and an upper film (F1) on the surface of a substrate (1a) after coating the first electrode layer (2a) and a first insulating layer. The upper film is constituted with an alkaline earth sulphide such as strontium sulphide (SrS) and calcium sulphide (CaS) as a principal ingredient. The sublayer film is constituted with the material of band gap smaller than the band gap of the material which constitutes the upper film. The film forming of the upper film is done after forming the sublayer film on the reverse pattern of a predetermined pattern. A laser light (L) of intermediate energy lever corresponding to the band gaps of the materials which constitute the sublayer film and the upper film is irradiated into the two layer section of the sublayer film and the upper film. The sublayer film is made to peel from the background. A sublayer film and the upper film are removed. Part of the same upper film is formed as the upper film of a predetermined pattern to obtain a light emission layer (4D).

USE - In manufacturing head for inkjet printers and field emission display unit using fluorescent material difficult towards wet etching. Eliminates adverse influence on film quality due to unsuitability for wet etching.

ADVANTAGE - Cuts sublayer film in chemical bond and peels by generating distortion without employing water. Simplifies manufacture of light emitting element using SrS which tends to hydrolyze and lead titanate zirconium of wet etching difficulty.

Dwg.1/6

FILE SEGMENT: EPI GMPI
 FIELD AVAILABILITY: AB; GI
 MANUAL CODES: EPI: U11-C04D1; U14-J02

L66 ANSWER 14 OF 18 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
 ACCESSION NUMBER: 1998-136257 [13] WPIDS
 DOC. NO. NON-CPI: N1998-108081
 TITLE: Active matrix organic **electroluminescent** display object manufacturing method for large screen display - involves forming set of red, green and blue organic light emitting layers on hole injection layer using **inkjet** system.

DERWENT CLASS: P75 U14
 PATENT ASSIGNEE(S): (SHI) SEIKO EPSON CORP
 COUNTRY COUNT: 1
 PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG | MAIN | IPC |
|-------------|------|----------|-----------|----|----|------------|-----|
| JP 10012377 | A | 19980116 | (199813)* | | 5 | H05B033-10 | |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|-------------|------|----------------|----------|
| JP 10012377 | A | JP 1996-158671 | 19960619 |

L66 ANSWER 11 OF 18 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
 PRIORITY APPLN. INFO: JP 1996-158671 19960619
 INT. PATENT CLASSIF.:

MAIN: H05B033-10
 SECONDARY: B41J002-01

BASIC ABSTRACT:

JP 10012377 A UPAB: 19980410

The method involves forming a hole injection layer (104) formed on a transparent **pixel** electrode layer (103). The transparent **pixel** electrode layer is formed on a glass substrate (101) mounting a thin film transistor (102).

A set of red, green and blue organic light emitting layers (106-108) are formed on the hole injection layer. A reflecting electrode (109) is formed on the red, green and blue organic light emitting layers. The organic light emitting layers are formed using an **inkjet** system.

ADVANTAGE - Enables to manufacture display object having big screen.

Dwg. 1/3

FILE SEGMENT: EPI GMPI
 FIELD AVAILABILITY: AB; GI
 MANUAL CODES: EPI: U14-J01

L66 ANSWER 15 OF 18 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
 ACCESSION NUMBER: 1997-208167 [19] WPIDS
 DOC. NO. NON-CPI: N1997-171814
 TITLE: Display device for e.g. colour **ink-jet printer** - has **light-emitting diode** switch that

switches ON LED of certain ink tank from which ink of specific colour will be discharged, and sets LEDs to OFF state when corresponding ink tanks are closed by covers.

DERWENT CLASS: P75 T04
 PATENT ASSIGNEE(S): (MATU) MATSUSHITA DENKI SANGYO KK
 COUNTRY COUNT: 1
 PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG | MAIN | IPC |
|-------------|------|----------|-----------|----|----|------------|-----|
| JP 09058018 | A | 19970304 | (199719)* | | 4 | B41J002-21 | |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|-------------|------|----------------|----------|
| JP 09058018 | A | JP 1995-213210 | 19950822 |

PRIORITY APPLN. INFO: JP 1995-213210 19950822

INT. PATENT CLASSIF.:

MAIN: B41J002-21

SECONDARY: B41J002-175; B41J029-13; B41J029-42

BASIC ABSTRACT:

JP 09058018 A UPAB: 19970512

The device includes a display unit which has several **light -emitting diodes** (8-11). An operation mode output device outputs the operation mode of a colour printer. The interruption of each colour ink of the colour printer is detected and output by an ink interruption output device.

The closing motion of a **colour printer cover** is detected by a closing operation sensor. The display of the LEDs is switched by an LED display switch (7) when the closing operation sensor detects that printer cover is closed by a cover closing switch (5), otherwise, an ink container in which ink interruption is generated are indicated on the LEDs.

ADVANTAGE - Eases operation during ink interchange even when number of LED of display unit is restricted. Displays ink tank in which ink interruption is generated without increasing LED.

Dwg.1/6

FILE SEGMENT: EPI GMPI
 FIELD AVAILABILITY: AB; GI
 MANUAL CODES: EPI: T04-G02; T04-G07; T04-G10A

L66 ANSWER 16 OF 18 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD

ACCESSION NUMBER: 1987-328683 [47] WPIDS

DOC. NO. NON-CPI: N1987-246008

TITLE: Developing method for electrostatic charge image - making liquid developer available at zone in distribution representing low-resolution version of image.

DERWENT CLASS: P84 S06
 INVENTOR(S): VACKIER, L N
 PATENT ASSIGNEE(S): (GEVA) AGFA-GEVAERT AG
 COUNTRY COUNT: 12
 PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG | MAIN | IPC |
|-------------------------------------|------|----------|-----------|----|----|------|-----|
| EP 246362 | A | 19871125 | (198747)* | EN | 13 | | |
| R: AT BE CH DE FR GB IT LI LU NL SE | | | | | | | |
| US 4770967 | A | 19880913 | (198839) | | 9 | | |
| EP 246362 | B | 19901227 | (199101) | | | | |
| R: BE DE FR GB | | | | | | | |
| DE 3676693 | G | 19910207 | (199107) | | | | |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|------------|------|----------------|----------|
| EP 246362 | A | EP 1986-200841 | 19860515 |
| US 4770967 | A | US 1987-44418 | 19870430 |

PRIORITY CLASS: EP 1986-200841 19860515
 REFERENCE PATENTS: 2.Jnl.Ref; US 3052213; US 3512965; US 3656173; US 4058637; US 4268597; US 4291643
 INT. PATENT CLASSIF.: G03G013-10; G03G015-10
 BASIC ABSTRACT:

EP 246362 A UPAB: 19930922
 A conductive drum (1) has a vapour-deposited photoconductive selenium coating (3) charged by a dc corona unit (4). As it moves past an array (5) of light-emitting diodes, the coating is discharged with a resolution of sixteen lines per mm. An ink-jet device (7) projects drops (8) of liq. developer onto the surface of the photoconductor, using piezo-electric deformation of ink-jet channels. The driving signals for the piezo-electric crystals are derived from the signals output by the character generator so that the distribution pattern of the drops of liq. developer represents a coarser version of the electrostatic image formed on the photoconductive coating by the scanning exposure.
 The coarser pattern may be of one quarter the resolution of the electrostatic image which is achieved by integration of values on four neighbouring pixels. Each increment of the developer distribution pattern is directly opposite to the corresp. increment of the electrostatic image.

ADVANTAGE - Fog-free toner images of high density are obtained more easily than in previous development appts.

2/3
 FILE SEGMENT: EPI GMPI
 FIELD AVAILABILITY: AB
 MANUAL CODES: EPI; S06-A04B

L66 ANSWER 17 OF 18 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
 ACCESSION NUMBER: 1986-151314 [24] WPIDS
 DOC. NO. NON-CPI: N1986-112305

TITLE: Thermal recording appts. for single and multiple
 colours - has substrate coatings
 with heat sensitive materials effecting desired
 colours with selective decomposition by differing
 light wavelengths.

DERWENT CLASS: P75 P83 T04 W02
 INVENTOR(S): MIYAKAWA, T; MIZUTANI, S; YAMAGUCHI, J
 PATENT ASSIGNEE(S): (FUJF) FUJI PHOTO FILM CO LTD
 COUNTRY COUNT: 6
 PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG | MAIN | IPC |
|-------------|------|----------|-----------|----|----|------|------------|
| EP 184132 | A | 19860611 | (198624)* | EN | 56 | | |
| R: DE FR GB | | | | | | | |
| JP 61213169 | A | 19860922 | (198644) | | | | |
| JP 61227088 | A | 19861009 | (198647) | | | | |
| JP 61261064 | A | 19861119 | (198701) | | | | |
| US 4734704 | A | 19880329 | (198816) | | | | |
| US 4833488 | A | 19890523 | (198924) | | | | |
| EP 184132 | B | 19900411 | (199015) | EN | | | |
| R: DE FR GB | | | | | | | |
| DE 3577063 | G | 19900517 | (199021) | | | | |
| JP 06062005 | B2 | 19940817 | (199431) | | | | B41M005-26 |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|-------------|------|----------------|----------|
| EP 184132 | A | EP 1985-115055 | 19851127 |
| JP 61213169 | A | JP 1985-68857 | 19850401 |
| US 4734704 | A | US 1985-803656 | 19851129 |
| US 4833488 | A | US 1987-105231 | 19871007 |
| EP 184132 | B | EP 1985-115055 | 19851121 |
| JP 06062005 | B2 | JP 1985-68857 | 19850401 |

FILING DETAILS:

| PATENT NO | KIND | PATENT NO |
|-------------|------|----------------------|
| JP 06062005 | B2 | Based on JP 61227088 |

PRIORITY APPLN. INFO: JP 1984-252890; 19841130; JP 1985-55077
 19850319; JP 1985-68857 19850401; JP
 1985-68858 19850401; JP 1985-103501 19850515

REFERENCE PATENTS: 1.Jnl.Ref; A3...8648; EP 111297; EP 115841; JP
 58083842; No-SR.Pub; US 4365254

INT. PATENT CLASSIF.: B41J002-32; B41J003-20; B41M005-18; G01D015-10;

SECONDARY:

G02B006-06; G03C001-58; G03C005-16;
 B41J002-32; B41J003-20; B41J029-00; B41M005-18;
 G01D015-10; G02B006-06; G03C001-58; G03C005-16

BASIC ABSTRACT:

EP 184132 A UPAB: 19930922

The appts. uses heat-sensitive recording materials such as aromatic diazonium salt, diago sulfonate or diazoamine compounds, which are photo-decomposable at selectively different wavelengths. The heat-sensitive recording material may be printed in single or multiple colours and recorded by thermal transfer or ink-jet methods. Colour images are recorded by the apparatus in which the heat sensitive material (1) is stocked as cut sheets in a magazine (2) and conveyed (3) one sheet at a time by a belt (12) under three consecutive thermal heads (21,22,23) to develop the colours yellow (Y), magenta (M), and cyan (C).

Downstream of the thermal heads are light source units (34,35,36) within light shields (31a,32a,33a) and emitting light of different different wavelengths for colour separation.

USE/ADVANTAGE - Provides hard copies in colour, from computer or data terminals, with clear images in desired hues, free from blurs or colour runs.

1A/20

FILE SEGMENT:

EPI GMPI

FIELD AVAILABILITY:

AB

MANUAL CODES:

EPI: T04-G03; W02-J02; W02-J09

L66 ANSWER 18 OF 18 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD

ACCESSION NUMBER: 1984-228018 [37] WPIDS

DOC. NO. NON-CPI: N1990-179664

TITLE: Half-tone image generator - modulates density of recording dot in accordance with black or white level per unit area NoAbstract Dwg 1/5.

DERWENT CLASS: P75 S06 T01 T04 W02

PATENT ASSIGNEE(S): (CANO) CANON KK

COUNTRY COUNT: 2

PATENT INFORMATION:

PATENT NO. KIND DATE WEEK LA PG MAIN IPC

JP 59134985 A 19840802 (198437)* 9

US 4933776 A 19900612 (199031)

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|-------------|------|----------------|----------|
| JP 59134985 | A | JP 1983-10098 | 19830124 |
| US 4933776 | A | US 1988-282895 | 19881212 |

L66 ANSWER 18 OF 18 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD

PRIORITY APPLN. INFO: JP 1983-10096 19830124; JP 1983-10098 19830124

DOC. CLASS:

P75

PATENT ASSIGNEE(S):

(CANO)

COUNTRY COUNT:

2

INT. PATENT CLASSIF.: B41J003-20; H04N001-22
FILE SEGMENT: EPI GMPI
FIELD AVAILABILITY: AB; GI
MANUAL CODES: EPI: S06-A16; T01-J10B; W02-J03A

=> file hca

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FILE COVERS 1967 - 17 Mar 2000 VOL 132 ISS 13
FILE LAST UPDATED: 17 Mar 2000 (20000317/ED)

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=> d 168,1-23 bib abs hitind

L68 ANSWER 1 OF 23 HCA COPYRIGHT 2000 ACS

AN 132:129840 HCA
TI **Electroluminescent device**
IN Kobayashi, Hidekazu
PA Seiko Epson Corp., Japan
SO PCT Int. Appl., 21 pp.

CODEN: PIXXD2

DT Patent

LA Japanese

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|---------------|------|----------|-----------------|----------|
| PI | WO 2000005929 | A1 | 20000203 | WO 1999-JP3978 | 19990723 |

W: CN, KR, US

RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE

PRAI JP 1998-210012 19980724

JP 1999-203632 19990716

AB An **electroluminescent** device comprises an

electroluminescent org. polymer layer between an anode and a cathode, and a thin-film layer placed between the luminescent layer and the cathode to suppress undesired elec. current that does not contribute to luminescence, thus the thin film is typically made of insulating polymers and inorg. materials, such as PMMA, polyethylene, and SiO₂. The device structure is suited for use in the device that comprises org. layers fabricated by **ink-jet** printing techniques.

IC ICM H05B033-22

ICS H05B033-10; H05B033-14; C09K011-06

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 42, 74

ST **electroluminescent** device PMMA silica **inkjet** printingIT **Electroluminescent** devices**Ink-jet** printing

(electroluminescent device)

IT 7429-90-5, Aluminum, uses 7440-70-2, Calcium, uses 7789-24-4,

Lithium fluoride, uses 7789-75-5, Calcium fluoride, uses

9011-14-7, PMMA **26009-24-5**, Poly(1,4-phenylene-1,2-

ethenediyl) 123864-00-6, Poly (9,9-dioctylfluorene) 125806-09-9,

Vitron

(electroluminescent device)

L68 ANSWER 2 OF 23 HCA COPYRIGHT 2000 ACS

AN 131:344321 HCA

TI Manufacture of electron-emitting device, electron source, and display panel

IN Kobayashi, Toyoko

PA Canon K. K., Japan

SO Jpn. Kokai Tokkyo Koho, 24 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 11317157 | A2 | 19991116 | JP 1998-121389 | 19980430 |

AB The device is manufd. by applying droplets of a soln. for forming thin film elec. conductor on a porous layer area, between a pair of electrodes facing each other, of a substrate so that the thin film elec. conductor is formed. The thin film with uniform thickness can be formed by the process. The electron source, involving an electron-emitting device and a means of applying elec. voltage on the device, is manufd. by a process involving the above method for formation of electron-emitting device. The display panel involving the electron source and an **electroluminescent** film is manufd. by a process involving the above process.

TI Manufacture of electron-emitting device, electron source, and display panel

IN Kobayashi, Toyoko

PA Canon K. K., Japan

SO Jpn. Kokai Tokkyo Koho, 24 pp.

CODEN: JKXXAF

IC ICM, H01J009-02
 ICS H01J001-30; H01J031-12
 CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and
 Other Reprographic Processes)
 Section cross-reference(s): 76
 IT Electric conductors
 Electron sources
 Ink-jet printing
 (formation of electron-emitting part on area between electrode on
 porous substrate by applying liq. droplet elec. conductor thin
 film precursor)

L68 ANSWER 3 OF 23 HCA COPYRIGHT 2000 ACS

AN 131:293129 HCA

TI Modification of polymer optoelectronic properties after film
 formation, dopant addition or removal

IN Sturm, James C.; Hebner, Thomas R.

PA Trustees of Princeton University, USA

SO PCT Int. Appl., 33 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------|------|------|-----------------|------|
|------------|------|------|-----------------|------|

| | | | | | |
|----|------------|----|----------|----------------|----------|
| PI | WO 9953529 | A2 | 19991021 | WO 1999-US7970 | 19990412 |
|----|------------|----|----------|----------------|----------|

W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ,
 DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN,
 IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD,
 MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI,
 SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ,

RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE,
 DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ,
 CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

PRAI US 1998-PV81492 19980413

AB The methods of this invention involve modification of the properties
 of an org. film after it was deposited by either adding new
 components into it from its top or bottom surface, or by causing
 components to leave the film from its top or bottom surface. In the
 examples of these methods, the **emitting color** of
light-emitting diodes are modified based
 on doped polymers by locally introducing dopants causing different
 color emission into the film by local **application**
 of a soln. contg. the desired dopant to the film surface (by
ink jet printing, screen printing, local droplet
 application, etc.). This overcomes difficulties encountered with
 the direct patterning of three sep. formed org. layers (each which
 uniformly coats an entire surface when formed) into regions for sep.
 R, G, and B devices due to the sensitivities of the org. materials
 to chems. typically used with conventional patterning technologies.
 Alternatively, dopants may be introduced in an org. film by

diffusion from one layer into the film. Alternatively, dopants may be selectively removed from a film with solvents, etc.

IC ICM H01L
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 38
ST dye doping polymer film LED
IT Diffusion
Dissolution
Dyes
Ink-jet printing
Screen printing
(modification of polymer optoelectronic properties after film formation, dopant addn. or removal)
IT Electroluminescent devices
(thin-film; modification of polymer optoelectronic properties after film formation, dopant addn. or removal)

L68 ANSWER 4 OF 23 HCA COPYRIGHT 2000 ACS

AN 131:235858 HCA

TI Substrate for patterning thin film and surface treatment thereof

IN Seki, Syunichi; Kiguchi, Hiroshi; Yudasaka, Ichio; Miyajima, Hiroo

PA Seiko Epson Corporation, Japan

SO PCT Int. Appl., 97 pp.

IC CODEN: PIXXD2

DT Patent

LA Japanese

FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------|------|----------|-----------------|----------|
| WO 9948339 | A1 | 19990923 | WO 1999-JP1327 | 19990317 |

W: CN, JP, KR, US

RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE

PRAI JP 1998-67508 19980317

JP 1999-32123 19990210

AB A display, such as an EL device having little variation in film thickness between pixels, and a color filter are disclosed. Arranged on a substrate are pixels formed by

an ink-jet method in regions to be coated and

partitioned by banks so formed as to satisfy the formulas $a > d/4$, $d/2 < b < 5d$, $c > t_0$, $c > (1/2) \times (d/b)$ where a is the width of the banks, c is the height of the banks, b is the width of the regions to be coated, d is the diam. of droplets of a liq. material for forming a thin film, and t_0 is the thickness of the thin film. A method of modifying the surface is a method comprising forming banks of an org. material on an inorg. bank forming surface, and performing a plasma processing under an excessive fluorine condition, or a method comprising performing oxygen gas plasma processing of a substrate having banks formed of an org. material, and then performing fluorine-based gas plasma processing.

IC ICM H05B033-22

FI 9948339

W: CN, JP, KR, US

RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE

ICS H05B033-10; G02B005-20; G09F009-00; G09F009-30; H01L029-78;
H01L027-15; H01L029-28

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and
Other Reprographic Processes)
Section cross-reference(s): 73
ST **electroluminescent** device color filter substrate
patterning thin film; surface treatment plasma processing
ink jet coating dip spin
IT **Electroluminescent** devices
Ink-jet printing
Optical filters
Plasma
(substrate for patterning thin film and plasma surface treatment
thereof)

L68 ANSWER 5 OF 23 HCA COPYRIGHT 2000 ACS

AN 131:235857 HCA

TI Method for forming thin film of EL device and
LED of display apparatus and of color filter

IN Yudasaka, Ichio

PA Seiko Epson Corporation, Japan

SO PCT Int. Appl., 40 pp.

CODEN: PIXXD210; G02B005-20; G09F009-00; G09F009-30; H01L029-78; H01L027-15; H01L029-28

DT Patent

LA Japanese

FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------|------|------|-----------------|------|
|------------|------|------|-----------------|------|

| | | | | |
|---------------|----|----------|----------------|----------|
| PI WO 9948338 | A1 | 19990923 | WO 1999-JP1289 | 19990316 |
|---------------|----|----------|----------------|----------|

W: KR, US

RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC,
NL, PT, SE

| | | | | |
|-------------|----|----------|---------------|----------|
| JP 11271753 | A2 | 19991008 | JP 1998-69146 | 19980318 |
|-------------|----|----------|---------------|----------|

| | |
|--------------------|----------|
| PRAI JP 1998-69146 | 19980318 |
|--------------------|----------|

AB A method for forming a thin film comprises repeating the step of
forming an affinity bank layer of a material (inorg. material such
as SiO₂) exhibiting an affinity with a thin film material liq. and
the step of forming a nonaffinity bank layer of a material (org.
material such as resist) exhibiting a non-affinity with the thin
film material liq. so as to form a bank of alternate affinity bank
layers and non-affinity bank layers, filling the space between the
banks with the thin film material liq. by an **ink-**
jet method, and performing heat treatment so as to form thin
film layers in order. By performing the steps, the cost necessary
for affinity control is reduced, and a multilayer thin film with a
uniform thickness is formed.

IC ICM H05B033-22

ICS H05B033-10; G02B005-20; G02B005-101; G09F009-00; G09F009-321

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and
Other Reprographic Processes)

PI Section cross-reference(s): 37, 73 LO 1999 00130 19990316

ST thin film manuf EL LED display color filter

RP: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC,
NL, PT, SE

| | | | | |
|-------------|----|----------|---------------|----------|
| JP 11271753 | A2 | 19991008 | JP 1998-69146 | 19980318 |
|-------------|----|----------|---------------|----------|

| | |
|--------------------|----------|
| PRAI JP 1998-69146 | 19980318 |
|--------------------|----------|

bank; ink jet printing thin film manuf
 IT **Electroluminescent devices**
Ink-jet printing
Optical filters
 (method for forming thin film of EL device
 and LED of display app. and of color filter)
 IT **Electroluminescent devices**
 (thin-film; method for forming thin film of
EL device and LED of display app. and of color
filter)
 IT 7631-86-9, Silicon dioxide, uses 50926-11-9, ITO
 (Method for forming thin film of EL device
 and LED of display app. and of color filter)
 IT 75-73-0 7782-44-7, Oxygen, processes
 (Method for forming thin film of EL device
 and LED of display app. and of color filter)

L68 ANSWER 6 OF 23 HCA COPYRIGHT 2000 ACS
 AN 131:151836 HCA
 TI Display device
 IN Friend, Richard Henry; Towns, Carl Robert; Carter, Julian Charles;
 Heeks, Stephen Karl; Wittman, Hermann Felix; Pichler, Karl;
 Yudasaka, Ichio
 PA Cambridge Display Technology Ltd., UK; Seiko Epson Corporation
 SO PCT Int. Appl., 26 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|----------|
| PI WO 9943031 | A1 | 19990826 | WO 1999-GB530 | 19990219 |
| IT | W: | AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | |
| | RW: | GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG | | |
| L68 AU 9926304 | A1 | 19990906 | AU 1999-26304 | 19990219 |
| TI CN 1233929 | A | 19991103 | CN 1999-103116 | 19990223 |
| IT PRAI GB 1998-3763 | | 19980223 | | |
| | WO 1999-GB530 | 19990219 | | |
| AB | A method for forming a display device comprises depositing a thin-film transistor switch circuit on a substrate, depositing by ink-jet printing an electrode layer of a light-transmissive conductive org. material in elec. contact with the output of the thin-film transistor circuit, and depositing an active region of the device over the electrode layer. | | | |
| DT | | | | |
| LA | | | | |
| IC | ICM H01L051-20 | | | |

PI WO 9943031 A1 19990826 WO 1999-GB530 19990219
 W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
 RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

ICS H01L027-15
 CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
 Section cross-reference(s): 76
 ST display org electrode ink jet printing
 IT Ink-jet printing
 (electroluminescent devices with org. transparent electrodes prep'd. by)
 IT Electroluminescent devices
 Electrooptical imaging devices
 (org. transparent electrodes prep'd. by ink-jet printing for)
 IT Electrodes
 (org., transparent; prep'd. by ink-jet printing for electroluminescent devices)
 IT 26009-24-5, Poly(p-phenylenevinylene)
 (electroluminescent devices with org. transparent electrodes and light-emitting layers from)
 IT 50851-57-5, Poly(styrenesulfonic acid)
 (electroluminescent devices with org. transparent electrodes from poly(ethylene dioxythiophene) and)
 IT 126213-51-2
 (electroluminescent devices with org. transparent electrodes from poly(styrenesulfonic acid) and)
 CC
 L68 ANSWER 7 OF 23 HCA COPYRIGHT 2000 ACS
 AN 130:359212, HCA
 TI Dual-color polymer light-emitting pixels processed by hybrid inkjet printing
 AU Chang, Shun-Chi; Bharathan, Jayesh; Helgeson, Roger; Wudl, Fred; Yang, Yang; Ramey, Michael B.; Reynolds, John R.
 IT
 CS Department of Materials Science and Engineering, University of California - Los Angeles, Los Angeles, CA, 90095-1595, USA
 SO Proc. SPIE-Int. Soc. Opt. Eng. (1998), 3476(Organic Light-Emitting Materials and Devices II), 202-207
 IT CODEN: PSISDG; ISSN: 0277-786X
 PB SPIE-The International Society for Optical Engineering
 DT Journal
 LA English
 AB We present a successful demonstration of controllable patterning of dual-color polymer light-emitting pixels using a hybrid inkjet printing technique. In this demonstration, the polymer buffer layer is a wide bandgap, blue emitting semiconducting polymer, poly[2,5-bis[2-(N,N,N-triethylammonium)ethoxy]-1,4-phenylene-alt-1,4-phenylene] dibromide (PPP-NET3+), prep'd. by the spin-casting technique. The inkjet printed layer is a red-orange semiconductor polymer, poly(5-methoxy-2-propanoxysulfonide-1,4-phenylene vinylene) (MPS-PPV) which was printed onto the buffer layer. When a proper solvent was selected, MPS-PPV diffused into the buffer layer and efficient energy transfer took place from the PPP-NE3+ to the MPS-PPV generating a red-orange photoluminescence and

electroluminescence from the **inkjet** printed sites.

Based on this principle, blue and orange-red dual-color polymer light-emitting **pixels** were fabricated on the same substrate. The use of this concept represents an entirely new technol. for fabricating polymer multicolor displays with high-resoln., lateral patterning capability.

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 38, 73, 76

ST **electroluminescence** polymer two color LED display
ink jet printing

IT **Electroluminescent devices**

Ink-jet printing

(dual-color polymer light-emitting

pixels processed by hybrid **inkjet** printing)

IT 216656-65-4

(blue-emitting semiconductor polymer of dual-color polymer light-emitting **pixels** processed by hybrid **inkjet** printing)

IT 125714-87-6

(red-orange-emitting semiconductor polymer of dual-color polymer light-emitting **pixels** processed by hybrid

inkjet printing)

L68 ANSWER 8 OF 23 HCA COPYRIGHT 2000 ACS

AN 130:345087 HCA

TI Ink-receptor for **ink-jet** printing

IN Uto, Tetsuya; Ikeda, Mitsuhiro

PA Mitsubishi Paper Mills, Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 9 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 11138978 | A2 | 19990525 | JP 1997-305376 | 19971107 |

PI JP 11138978 A2 19990525 JP 1997-305376 19971107

AB An ink-receptor for **ink-jet** printing comprises a support, an ink-receiving layer contg. poly(vinyl alc.), an alumina hydrate, and an addn. product of ethylene oxide with a tertiary alc. contg. an acetylene bond.

IC ICM B41M005-00

ICS B05D005-04

CC 74-7 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST **ink jet** printing material acetylene compd;

alumina hydrate **ink jet** printing material

IT **Ink-jet** printing

(**ink-receiving** layers contg. poly(vinyl alc.), alumina hydrates, and addn. products of ethylene oxide with acetylene bond-contg. tertiary alcs. for)

IT 9002-89-5, Poly(vinyl alcohol)

PI 101330973 72
 (ink-receiving layers for ink-jet printing
 contg. alumina hydrates, addn. products of ethylene oxide with
 acetylene bond-contg. tertiary alcs. and)
 IT 9014-85-1, Acetylenol EL
 (ink-receiving layers for ink-jet
 printing contg. alumina hydrates, poly(vinyl alc.) and)
 IT 1333-84-2, Alumina hydrate
 (ink-receiving layers for ink-jet printing
 contg. poly(vinyl alc.), addn. products of ethylene oxide with
 acetylene bond-contg. tertiary alcs. and)

L68 ANSWER 9 OF 23 HCA COPYRIGHT 2000 ACS

AN 130:203023 HCA

TI Display devices

IN Friend, Richard Henry

PA Cambridge Display Technology Ltd., UK

SO PCT Int. Appl., 28 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|----------------------------------------------------------------------------|------|----------|-----------------|----------|
| PI | WO 9912398 | A1 | 19990311 | WO 1998-GB2615 | 19980901 |
| | W: JP, US | | | | |
| | RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE | | | | |

PRAI GB 1997-18516 19970901

AB Display devices are described which comprise a light-emitting structure with two regions of light-emitting material for emitting light in a viewing direction, the regions being spaced apart in a direction perpendicular to the viewing direction and the light-emitting structure being capable of guiding light emitted from one of the light-emitting regions towards the other emissive region; and a (e.g., light-absorbing or reflective) barrier structure located between the light-emitting regions for inhibiting the propagation of light guided from one of the light-emitting regions toward the other light-emitting region. The light-emitting material may be an org. material, esp. a polymeric semiconductor, and the emitting regions may be formed using ink-jet printing.

ICM H05B033-24

ICS H01L051-20; H01L027-15

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 76

ST electroluminescent display multiple emitter

IT Electroluminescent devices

Semiconductor electroluminescent devices

(electroluminescent displays with multiple emitting regions)

IT Polyimides, uses

light in a viewing direction, the light-emitting regions being spaced apart in a direction perpendicular to the viewing direction and the light-emitting structure being capable of guiding light emitted from one of the light-emitting regions toward the other light-emitting region. The light-emitting material may be an org. material, esp. a polymeric semiconductor, and the emitting regions may be formed using ink-jet printing.

(el ctroluminescent displays with multiple emitting regions)
 IT Ink-jet printing
 (in fabrication of electroluminescent displays with multiple emitting regions)
 IT Semiconductor device fabrication
 (of electroluminescent displays with multiple emitting regions)
 IT 7429-90-5, Aluminium, uses 26009-24-5,
 Poly(p-phenylenevinylene) 50926-11-9, Indium-tin oxide
 126213-51-2 210347-52-7 220797-16-0
 (electroluminescent displays with multiple emitting regions)
 IT 50851-57-5, Polystyrene sulphonic acid
 (electroluminescent displays with multiple emitting regions)

L68 ANSWER 10 OF 23 HCA COPYRIGHT 2000 ACS

AN 130:202723 HCA

TI Production method of organic electroluminescent display

IN Kobe, Sadao; Kiguchi, Hiroshi

PA Seiko Epson Corp., Japan

SO Jpn. Kokai Tokkyo Koho, 4 pp.
 CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 11054272 | A2 | 19990226 | JP 1997-206848 | 19970731 |

AB The invention relates to a prodn. method of an org. electroluminescent display that comprises a polyphenylenevinylene-based light-emitting material sandwiched between a pair of electrodes, wherein the soln. contg. the precursor of polyphenylenevinylene and the high b.p. hydrophilic solvent is discharged on a transparent electrode and dried at .ltoreq.120 degree.C in vacuum, prior to completing the light-emitting layer.

IC ICM H05B033-10

ICS H05B033-14

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 74

ST org electroluminescent display

SO polyphenylenevinylene

IT Electroluminescent devices

DT Ink-jet printing

LA Optical imaging devices

(prodn. method of org. electroluminescent display)

IT 96638-49-2P, Polyphenylenevinylene

(prodn. method of org. electroluminescent display)

IT 56-81-5P, Glycerin, preparation 7732-18-5P, Water, preparation

(prodn. method of org. electroluminescent display)

L68 ANSWER 11 OF 23 HCA COPYRIGHT 2000 ACS

AN 130:189517 HCA

TI Method of producing organic electroluminescent device

IN Seki, Shunichi; Kiguchi, Hiroshi

PA Seiko Epson Corporation, Japan

SO PCT Int. Appl., 31 pp.

CODEN: PIXXD2

DT Patent

LA Japanese

FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----------------------------------------------------------------------------|------|----------|-----------------|----------|
| WO 9912395 | A1 | 19990311 | WO 1998-JP3935 | 19980902 |
| W: CN, KR, US | | | | |
| RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE | | | | |
| EP 982974 | A1 | 20000301 | EP 1998-941685 | 19980902 |
| R: DE, FR, GB, NL | | | | |

PRAT JP 1997-237103 19970902

JP 1998-214596 19980729

WO 1998-JP3935 19980902

AB The invention relates to a compn. that is used for forming a patterned hole injecting/transporting layer of an org. electroluminescent device by employing an ink-jet recording technique. The compn. contains an elec. conducting compd., a wetting agent and a solvent. The phys properties of compn., such as a contact angle for printing, a viscosity, and a surface tension, are optimized for producing high-precision pattern.

IC ICM H05B033-10

ICS H05B033-22; C08L101-00; C08K005-05

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST org electroluminescent device ink jet recording

IT Electroluminescent devices

Ink-jet printing

Optical imaging devices

(method of producing org. electroluminescent device)

IT 147-14-8P, Copper phthalocyanine 50851-57-5P, Poly(styrene sulfonic acid) 126213-51-2P, Poly(3,4-ethylenedioxythiophene) (conductive compd. for hole injecting/transporting layer of org. electroluminescent device)

IT 100-42-5DP, Styrene, polymer with acrylic compds. (dispersion media of compn. for hole injecting/transporting layer of org. electroluminescent device)

IT 67-56-1P, Methanol, preparation 67-63-0P, Isopropyl alcohol, preparation 68-12-2P, N,N-Dimethylformamide, preparation 110-80-5P, 111-76-2P, 7732-18-5P, Water, preparation (solvent contained in compn. for hole injecting/transporting

layer of org. electroluminescent device)
 IT 56-81-5P, Glycerin, preparation
 (wetting agent contained in compn. for hole
 injecting/transporting layer of org.
 electroluminescent device)

L68 ANSWER 12 OF 23 HCA COPYRIGHT 2000 ACS
 AN 130:160353 HCA
 TI **Electroluminescent device production process**
 IN Barnardo, Christopher John Andrew; Townsend, Janet Elizabeth;
 Singhal, Kavita
 PA Cambridge Consultants Limited, UK
 SO PCT Int. Appl., 14 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|-------------------------------------------------------------------------------|------|----------|-----------------|----------|
| PI | WO 9907189 | A1 | 19990211 | WO 1998-GB2211 | 19980724 |
| | W: JP, US | | | | |
| | RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE | | | | |
| IT | EP 931435 | A1 | 19990728 | EP 1998-935209 | 19980724 |
| | R: AT, BE, CH, DE, DK, ES, FR, GB, IT, LI, NL, SE | | | | |
| PRAI | GB 1997-15907 | | 19970729 | | |
| | WO 1998-GB2211 | | 19980724 | | |

AB Methods of producing **electroluminescent** devices are
 described which entail applying a first conductive electrode to a
 substrate; using a std. printing process to **apply** a
light-emitting polymer on top of, though not
 necessarily adjacent to, the first electrode; applying a second
 conductive electrode on top of, though not necessarily adjacent to,
 the light-emitting polymer so that an accurately placed layer of
 light-emitting polymer of controllable thickness is formed using a
 method which is as fast and cost-effective as desired. The printing
 process may be selected from letter-press printing, screen printing,
 doctor blade coating, **ink-jet** printing, roller
 printing, reverse-roller printing, offset lithog. printing, flexog.
 printing, and web printing.
 ICM H05B033-10
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related
 Properties)
 Section cross-reference(s): 74, 76
 ST printing **electroluminescent** polymer
electroluminescent device fabrication
 IT **Electroluminescent** devices
 Ink-jet printing
 Lithography
 Offset lithography
 Printing (impact)
 Screen printing

Semiconductor electroluminescent devices
(electroluminescent device prodn. process entailing
printing of electroluminescent polymers)

IT Semiconductor device fabrication
(electroluminescent devices; electroluminescent
device prodn. process entailing printing of
electroluminescent polymers)

IT Printing (impact)
(flexog.; electroluminescent device prodn. process
entailing printing of electroluminescent polymers)

IT Electroluminescent phosphors
(polymeric; electroluminescent device prodn. process
entailing printing of electroluminescent polymers)

IT 26009-24-5, Poly(p-phenylene vinylene)
(electroluminescent device prodn. process entailing
printing of electroluminescent polymers)

L68 ANSWER 13 OF 23 HCA COPYRIGHT 2000 ACS

AN 130:131589 HCA

TI Composition for an organic EL element and method of
manufacturing the organic EL element

IN Kiguchi, Hiroshi; Kanbe, Sadao; Seki, Shunichi

PA Seiko Epson Corporation, Japan

SO Eur. Pat. Appl., 44 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|----------------------------------------------------------------------------------------------|------|----------|-----------------|----------|
| PI | EP 892028 | A2 | 19990120 | EP 1998-113051 | 19980714 |
| | EP 892028 | A3 | 19990203 | | |
| | R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO | | | | |

| | | | | | |
|------|----------------|----|----------|----------------|----------|
| | JP 11040358 | A2 | 19990212 | JP 1997-191681 | 19970716 |
| | JP 11054270 | A2 | 19990226 | JP 1997-204697 | 19970730 |
| | CN 1220404 | A | 19990623 | CN 1998-117263 | 19980716 |
| PRAI | JP 1997-191681 | | 19970716 | | |
| | JP 1997-204697 | | 19970730 | | |

AB: Comps. for producing org. electroluminescent elements
comprise a precursor of a conjugated org. polymer compd. for forming
luminescent layer having a certain color and fluorescent dye for changing the luminescence characteristics (e.g.,
absorption) of the luminescent layer. The luminescent layer may be
formed by polymn. of the precursor after the compn. was applied in a
pattern formed by using an ink-jet method. The
precursor compd. may be poly(p-phenylene vinylene
) or a poly(p-phenylene vinylene) deriv.
Preferably, the compn. for the org. electroluminescent
element satisfies at least one of the conditions including a contact
angle of 30-170.degree. with respect to a nozzle surface of a nozzle
provided in a head of an ink-jet device used for

| | | | | | |
|--|-------------|----|----------|----------------|----------|
| | JP 11040358 | A2 | 19990212 | JP 1997-191681 | 19970716 |
| | JP 11054270 | A2 | 19990226 | JP 1997-204697 | 19970730 |

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,
PT, IE, SI, LT, LV, FI, RO

| | | | | | |
|--|-------------|----|----------|----------------|----------|
| | JP 11040358 | A2 | 19990212 | JP 1997-191681 | 19970716 |
| | JP 11054270 | A2 | 19990226 | JP 1997-204697 | 19970730 |

the **ink-jet** method for discharging the compn., a viscosity of 1-20 cp and a surface tension of 20-70 dyne/cm. By using the compns., optimum film design and luminescence characteristics can be obtained, and adjustment of luminescence efficiency can also be performed.

ICM C09K011-06
ICS H05B033-28

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 76

ST **electroluminescent** device **dye** doped emitting layer

IT **Electroluminescent** devices
Semiconductor device fabrication
Semiconductor **electroluminescent** devices
(compns. for forming org. **electroluminescent** devices with **dye**-contg. luminescent layers and device fabrication using the compns.)

IT Poly(arylenealkenylenes)
(compns. for forming org. **electroluminescent** devices with **dye**-contg. luminescent layers and device fabrication using the compns.)

IT Fluorescent dyes
(in compns. for forming org. **electroluminescent** devices with **dye**-contg. luminescent layers and device fabrication using the compns.)

IT **Ink-jet** printing
(using compns. for forming org. **electroluminescent** devices with **dye**-contg. luminescent layers)

IC 81-88-9, Rhodamine B, 1047-16-1, Quinacridone 1047-16-1D, Quinacridone, derivs. 27236-84-6, Tetraphenylbutadiene 27236-84-6D, derivs. 38215-36-0, Coumarin 6 54227-96-2, Distyrylbiphenyl 62669-74-3, Coumarin 138, 64339-18-0, Rhodamine 101

IT (fluorescent dye; in compns. for forming org. **electroluminescent** devices with **dye**-contg. luminescent layers and device fabrication using the compns.)

IT 26009-24-5, Poly(p-phenylene vinylene)
26009-24-5D, Poly(p-phenylene vinylene), derivs.
(precursors for; in compns. for forming org. **electroluminescent** devices with **dye**-contg. luminescent layers and device fabrication using the compns.)

L68 ANSWER 14 OF 23 HCA COPYRIGHT 2000 ACS
AN 130:102697 HCA
TI Color filters for organic light-emissive devices
IN Friend, Richard Henry; Pichler, Karl
PA Cambridge Display Technology Ltd., UK
SO PCT Int. Appl., 30 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|------------|------|----------|-----------------|----------|
| PI | WO 9859529 | A1 | 19981230 | WO 1998-GB1804 | 19980619 |

W: JP, US

RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE

PRAI GB 1997-13074 19970621

AB **Electroluminescent** devices are described which comprise: an org. light-emitting layer; an electrode on one side of the light-emitting layer for injecting charge carriers of a first polarity towards the light-emitting layer; and a light filtering layer on the other side of the light-emitting layer, the light filtering layer comprising an org. material that is doped to render it at least partially elec. conductive for injection of charge carriers of a second type towards the light-emitting layer. Org. **electroluminescent** devices are also described which are provided with a light-filtering layer that absorbs light at at least some wavelengths which would otherwise impair the performance of the light-emitting layer. Methods for fabricating the **electroluminescent** devices entailing the formation of the layers are also described. The light-filtering layer may be formed by **ink-jet printing**.

ICM H05B033-22

ICS H05B033-26; H05B033-10

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 76

ST org **electroluminescent** device filter layer;**electroluminescent** device fabrication filter layer

IT Semiconductor device fabrication

(electroluminescent devices; org.

electroluminescent devices with color filter layers and their fabrication)

IT Poly(arylenealkenylenes)

(emitting layer; org. **electroluminescent**

devices with color filter layers and their fabrication)

IT **Ink-jet printing**(in fabrication of org. **electroluminescent** devices with color filter layers)IT **Electroluminescent** devices

Optical filters

(org. **electroluminescent** devices with color filter layers and their fabrication)

IT 104934-50-1, Poly(3-hexyl thiophene) 104934-53-4, Poly(3-dodecyl thiophene)

CC (filter layers from doped; org. **el ctrolumin scent** devices with color filter layers and their

fabrication)

IT 84-58-2, Dicyanodichloroquinone
(org. electroluminescent devices with color
filter layers and their fabrication)

L68 ANSWER 15 OF 23 HCA COPYRIGHT 2000 ACS
AN 130:45177 HCA
TI Dual-color polymer light-emitting pixels processed by
hybrid ink-jet printing
AU Chang, Shun-Chi; Bharathan, Jayesh; Yang, Yang; Helgeson, Roger;
Wudl, Fred; Ramey, Michael B.; Reynolds, John R.
CS Department of Materials Science and Engineering, University of
California-Los Angeles, Los Angeles, CA, 90095, USA
SO Appl. Phys. Lett. (1998), 73(18), 2561-2563
CODEN: APPLAB; ISSN: 0003-6951
PB American Institute of Physics
DT Journal
LA English
AB A hybrid ink-jet printing (HIJP) technol., which
combines a pin-hole free polymer buffer layer and an ink-
jet printed polymer layer, allows the patterning of high
quality polymer light-emitting devices
. The authors present a successful demonstration of controllable
patterning of dual-color polymer light-emitting pixels
using this HIJP technique. In this demonstration, the polymer
buffer layer is a wide band gap, blue emitting semiconducting
polymer prep'd. by the spin-casting technique. The ink-
jet printed layer is a red-orange semiconducting polymer
which was printed onto the buffer layer. When a proper solvent was
selected, the printed polymer diffused into the buffer layer and
efficient energy transfer took place generating a red-orange
photoluminescence and electroluminescence from the
ink-jet printed sites. Based on this principle,
blue and orange-red dual-color polymer light-emitting pixels
were fabricated on the same substrate. The use of this concept
represents an entirely new technol. for fabricating polymer
multicolor displays with high-resoln., lateral patterning
capability.
CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and
Other Reprographic Processes)
LA Section cross-reference(s): 73
ST hybrid ink jet printing polymer light
emitting device fabrication; LED polymer device
fabrication hybrid ink jet printing
IT Polyphenyls
(blue emitting buffer layer; polymer light-
emitting devices fabricated by hybrid
ink-jet printing technique combining pin-hole
free polymer buffer layer and ink-j t printed
polymer layer)
IT Ink-jet printing
(polymer light-emitting devices

- fabricated by hybrid **ink-jet** printing technique combining pin-hole free polymer buffer layer and **ink-jet** printed polymer layer)
- IT **Electroluminescent devices**
(polymer; polymer **light-emitting devices** fabricated by hybrid **ink-jet** printing technique combining pin-hole free polymer buffer layer and **ink-jet** printed polymer layer)
- IT Poly(arylenealkenylenes)
(red-orange emitting **ink-jet** printable layer; polymer **light-emitting devices** fabricated by hybrid **ink-jet** printing technique combining pin-hole free polymer buffer layer and **ink-jet** printed polymer layer)
- IT 216656-65-4; Poly[2,5-bis[2-(N,N,N-triethylammonium)ethoxy]-1,4-phenylene-1,4-phenylene]dibromide
(blue emitting buffer layer; polymer **light-emitting devices** fabricated by hybrid **ink-jet** printing technique combining pin-hole free polymer buffer layer and **ink-jet** printed polymer layer)
- IT 216656-67-6
(red-orange emitting **ink-jet** printable layer; polymer **light-emitting devices** fabricated by hybrid **ink-jet** printing technique combining pin-hole free polymer buffer layer and **ink-jet** printed polymer layer)
- L68 ANSWER 16 OF 23 HCA COPYRIGHT 2000 ACS
AN 129:283155 HCA
TI Local tuning of organic **light-emitting diode** color by dye droplet application
AU Hebner, T. R.; Sturm, J. C.
CS Department of Electrical Engineering, Center for Photonic and Optoelectronic Materials (POEM), Princeton University, Princeton, NJ, 08544, USA
SO Appl. Phys. Lett. (1998), 73(13), 1775-1777
CODEN: APPLAB; ISSN: 0003-6951
PB American Institute of Physics
DT Journal
LA English
AB Fluorescent dyes may be introduced into previously fabricated polymer thin films by local application of a dye-contg. droplet. The UV fluorescence spectra of the films and the spectra of org. **light-emitting diodes** made from these films can be successfully tuned by this method. The technique was implemented by **ink-jet** printing of the dye droplet.
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 36
ST LED tuning polymer PVK dye coumarin6; fluorescence tuning polymer

PVK dye coumarin6; vinylcarbazole polymer LED tuning dye coumarin6;
~~electroluminescent device tuning PVK coumarin6; ink~~

j t printing coumarin6 PVK LED

Dyes

Electroluminescent devices

Fluorescence

Ink-jet printing

(local tuning of org. light-emitting
 diode color by dye droplet application)

Films

(polymer; local tuning of org. light-emitting
 diode color by dye droplet application)

Polymers, uses

(thin films; local tuning of org. light-
 emitting diode color by dye droplet
 application)

38215-36-0, Coumarin 6

(local tuning of org. light-emitting
 diode color by dye droplet application)

25067-59-8, Poly(9-vinylcarbazole)

(local tuning of org. light-emitting
 diode color by dye droplet application)

L68 ANSWER 17 OF 23 HCA COPYRIGHT 2000 ACS

AN 129:102028, HCA

TI Multicolor display device

IN Thompson, Mark E.; Forrest, Stephen R.

PA The Trustees of Princeton University, USA; The University of
 Southern California

SO PCT Int. Appl. 27 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 113 color by dye droplet application)

IT PATENT NO. KIND DATE APPLICATION NO. DATE

PI WO 9828946 A1 19980702 WO 1997-US23635 19971223

W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ,

DE, DK, EE, ES, FI, GB, GE, GH, GW, HU, ID, IL, IS, JP, KE,

KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN,

MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ,

TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD,

RU, TJ, TM

RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES,

FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG,

CI, CM, GA, GN, ML, MR, NE, SN, TD, TG

US 6013982 A 20000111 US 1996-772333 19961223

AU 9857123 A1 19980717 AU 1998-57123 19971223

EP 958714 A1 19991124 EP 1997-953361 19971223

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,

PT, IE, SI, LT, LV, FI, RO

PRAI US 1996-772333 19961223

WO 1997-US23635 19971223

AB A multicolor display device includes a transparent substrate, red and green fluorescent dyes **ink-jet-printed** onto the substrate, a conductive **layer deposited** over the red and green dyes, an org. blue light-emitting **layer deposited** over the conductive layer, and an elec. contact deposited onto the blue light-emitting layer.

ICM H05B033-12

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT **Electroluminescent** devices

Electrooptical imaging devices

(color; with fluorescent dyes deposited by **ink-jet printing**)

L68 ANSWER 18 OF 23 HCA COPYRIGHT 2000 ACS

AN 129:60628 HCA

TI Method of producing organic **EL** elements, organic **EL** elements, and organic **EL** display device

IN Miyashita, Satoru; Kiguchi, Hiroshi; Shimoda, Tatsuya; Kanbe, Sadao

PA Seiko Epson Corporation, Japan; Miyashita, Satoru; Kiguchi, Hiroshi; Shimoda, Tatsuya; Kanbe, Sadao

SO PCT Int. Appl., 53 pp.

AB CODEN: PIXXD2

DT Patent

LA Japanese

FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------|------|------|-----------------|------|
|------------|------|------|-----------------|------|

| | | | | |
|------------|----|----------|----------------|----------|
| WO 9824271 | A1 | 19980604 | WO 1997-JP4283 | 19971125 |
|------------|----|----------|----------------|----------|

W: CN, KR, US

RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE

| | | | | |
|-------------|----|----------|----------------|----------|
| JP 10153967 | A2 | 19980609 | JP 1996-313828 | 19961125 |
|-------------|----|----------|----------------|----------|

| | | | | |
|-----------|----|----------|----------------|----------|
| EP 880303 | A1 | 19981125 | EP 1997-913435 | 19971125 |
|-----------|----|----------|----------------|----------|

R: DE, FR, GB, IT, NL

| | | | | |
|------------|---|----------|----------------|----------|
| CN 1212114 | A | 19990324 | CN 1997-192546 | 19971125 |
|------------|---|----------|----------------|----------|

PRAI JP 1996-313828 19961125

WO 1997-JP4283 19971125

AB A methods of producing org. **EL** elements includes a step for forming **pixel** electrodes on a transparent substrate, and a step for pattern-forming light-emitting layers of an org. compd. on the **pixel** electrodes relying on an **ink-jet system**. This makes it possible to easily effect the patterning within short periods of time while maintaining precision, to easily design the films, to optimize the light-emitting property, and to easily adjust the light-emitting efficiency.

ICM H05B033-10

ICS H05B033-14; G09F009-30

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 73

W: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE

| | | | | |
|-------------|----|----------|----------------|----------|
| JP 10153967 | A2 | 19980609 | JP 1996-313828 | 19961125 |
|-------------|----|----------|----------------|----------|

| | | | | |
|-----------|----|----------|----------------|----------|
| EP 880303 | A1 | 19981125 | EP 1997-913435 | 19971125 |
|-----------|----|----------|----------------|----------|

R: DE, FR, GB, IT, NL

ST org EL element display device
 IT Ink-jet printing
 (forming light-emitting layer for manuf. of org. EL
 element and display device)
 IT Luminescent screens
 Optical imaging devices
 (org. EL; manuf. including formation of electrode and
 light-emitting layer)
 IT 25067-59-8, Polyvinyl carbazole
 (forming light-emitting layer for manuf. of org. EL
 element and display device)

L68 ANSWER 19 OF 23 HCA COPYRIGHT 2000 ACS

AN 128:223722 HCA

TI Color theory and color imaging systems: past, present and future

AU McCann, John J.

CS Consultant, Belmont, MA, 02178, USA

SO J. Imaging Sci. Technol. (1998), 42(1), 70-78

CODEN: JIMTE6; ISSN: 1062-3701

PB Society for Imaging Science and Technology

DT Journal; General Review

LA English

AB James Clerk Maxwell demonstrated the first color photograph in a
 lecture to the Royal Society of Great Britain in 1861. He used the
 demonstration to illustrate Thomas Young's idea that human vision
 uses three kinds of light sensors. This demonstration led to a
 great variety of color photog. systems using both additive and
 subtractive color. Today, we have image-capture devices that are
 photog., video, still, and scanning. We have hardcopy printers that
 are electrophotog., ink jet, thermal and holog.,
 as well as displays that use cathode ray tubes, liq.-crystal and
 other light emission color devices.

The major effort today is to get control of all these technologies
 so that the user can, without effort, move a color digital image
 from one technol. to another without changing the appearance of the
 image. The strategy of choice is to use colorimetry to calibrate
 each device. If all prints and displays sent the same colorimetric
 values from every pixel, then the images, regardless of
 the display, would appear identical. The problem with matching
 prints and displays is that they have very different color gamuts.
 A more satisfactory soln. is needed. In my view, the future
 emphasis of color research will be in models of human vision. The
 purpose of these models will shift from calcg. color matches to
 calcg. color sensations. All the technologies listed above work one
 pixel at a time. The response at every pixel is
 dependent on the input at that pixel, regardless of
 whether the imaging system is chem., photonic, or elec. Human color
 vision uses a spatial calcn. involving the whole image. Except for
 human vision, all other color systems have the same output from a
 single input. In other words, if an input pix 1 has a
 value of 128, and the image processing changes that value to 155,
 then all pixels with 128 in will have 155 out. Human

well as displays that use cathode ray tubes, liq.-crystal and

other light emission color devices.

The major effort today is to get control of all these technologies

so that the user can, without effort, move a color digital image

from one technol. to another without changing the appearance of the

vision is unique among color imaging systems because a single input value (128) will generate a range of output values (0, or 55, or 128, or 255), depending on the values of other **pixels** in the image. Despite the remarkable progress in our ability to control the placement of dyes and pigments on paper, we must now return to the study of Maxwell's interest-color theory-for the next advancements in color systems. In the future, we will see more models that compute the color appearance from spatial information and write color sensations on media, rather than attempting to write the quanta catch of visual receptors. A review with 31 refs.

CC 74-0 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

L68 ANSWER 20 OF 23 HCA COPYRIGHT 2000 ACS

AN 128:198583 HCA

TI **Ink-jet printing of doped polymers for organic light emitting devices**

AU Hebner, T. R.; Wu, C. C.; Marcy, D.; Lu, M. H.; Sturm, J. C.

CS Center for Photonic and Optoelectronic Materials (POEM), Department of Electrical Engineering, Princeton University, Princeton, NJ, 08544, USA

SO Appl. Phys. Lett. (1998), 72(5), 519-521

CODEN: APPLAB; ISSN: 0003-6951

PB American Institute of Physics

DT Journal

LA English

AB **Ink-jet printing** was used to directly deposit patterned luminescent doped-polymer films. The luminescence of poly(vinylcarbazole) (PVK) films, doped with Coumarin 6 (C6), Coumarin 47 (C47), and Nile red was similar to that of films of the same compn. **deposited** by spin coating.

Light emitting diodes with low turn-on voltages were also fabricated in PVK doped with C6 deposited by **ink-jet printing**.

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 73

ST **ink jet printing doped polymer LED;**

light emitting device ink

jet printing

IT **Electroluminescent devices**

Ink-jet printing

Luminescence

SO (ink-jet printing of doped polymers for org. **light emitting devices**)

IT 25067-59-8, Polyvinylcarbazole

IT (ink-jet printing of doped polymers for org.

light emitting devices)

IT 91-44-1, Coumarin 47 7385-67-3, Nile red 38215-36-0, Coumarin 6

(ink-jet printing of doped polymers for org.

light emitting devices)

CC 74-0 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

L68 ANSWER 21 OF 23 HCA COPYRIGHT 2000 ACS
 AN 127:347692 HCA
 TI Coating composition as ink receiving layer on printing medium and image forming process
 IN Noguchi, Hiromichi; Higuma, Masahiko; Sato, Yuko
 PA Canon Kabushiki Kaisha, Japan
 SO Eur. Pat. Appl., 30 pp.

CODEN: EPXXDW

DT Patent
 LA English

FAN.CNT 2

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|-----------------------------------|------|----------|-----------------|----------|
| PI | EP 802245 | A1 | 19971022 | EP 1997-106173 | 19970415 |
| | R: BE, CH, DE, FR, GB, IT, LI, NL | | | | |
| | JP 10292137 | A2 | 19981104 | JP 1997-80194 | 19970331 |
| | CN 1167132 | A | 19971210 | CN 1997-110735 | 19970416 |
| PRAI | JP 1996-94058 | | 19960416 | | |
| | JP 1997-39048 | | 19970224 | | |
| | JP 1997-80194 | | 19970331 | | |

AB A coating compn. comprising cationic fine particles of a crosslinked resin, of av. particle diam. 0.1-100 .mu.m and a H2O absorption capacity .ltoreq.25 times by vol., and a binder resin is coated on a base material film. Thus, a coating compn. contg. S-lec KX-1 aq. soln; binder and crosslinked particles prepd. by the emulsion polymn. of polyethylene glycol diglycidyl ether dimethylaminoethylacrylate adduct was applied onto PET base layer film (100 .mu.m) and dried at 120.degree. for 5 min to give a printing sheet for testing ink jet color printing methods for absorbing speed, print evenness, and fastness.

IC ICM C09D007-12

ICS B41M005-00; B41J002-01

CC 42-10 (Coatings, Inks, and Related Products)

Section cross-reference(s): 74

IT 9002-89-5D, Poly(vinyl alcohol), cationic deriv. 9003-08-1,

PI Melamine resin 31305-91-6, Denacol EX 314 32762-63-3, 57611,

Acrylamide-2-hydroxyethyl acrylate-methyl methacrylate copolymer

53125-04-5, Poly(vinyl alcohol) succinate 87719-53-7 197611,

108570-48-5, Toresin FS 500 160109-42-2, 2-Hydroxyethyl 57611,

methacrylate-N-methylolacrylamide-methyl methacrylate copolymer

198016-39-6, Glyoxal-2-hydroxyethyl methacrylate copolymer

198085-64-2, EL Polymer EL 480 198085-66-4,

Patelacol IJ 2

(coating compn. as ink receiving layer on printing medium)

L68 ANSWER 22 OF 23 HCA COPYRIGHT 2000 ACS

AN 107:189026 HCA

TI A composite with a carbon film

IN Yamazaki, Shunpei

PA Semiconductor Energy Laboratory Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 4 pp.

IC ICM C09D007-12

ICS B41M005-00; B41J002-01

CC 42-10 (Coatings, Inks, and Related Products)

Section cross-reference(s): 74

IT 9002-89-5D, Poly(vinyl alcohol), cationic deriv. 9003-08-1,

PI Melamine resin 31305-91-6, Denacol EX 314 32762-63-3, 57611,

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 62162367 | A2 | 19870718 | JP 1986-277520 | 19861119 |

PI AB A composite has a pin or nip junction and a C-based film. Optionally, the p and n semiconductors and i semiconductor may have band widths 2.6-4.5 and 2-3 eV, and the C-based film may have a microcryst. property. The composite is useful for an **ink jet head**, quartz-spinning jig, automobile-window defroster, and **electroluminescent** device.

IC ICM H01L031-04

ICS H01L021-205; H01L033-00

CC 76-3 (Electric Phenomena)

Section cross-reference(s): 73

ST carbon film semiconductor junction; **ink jet head**
carbon film; quartz spinning app carbon film; automobile window defroster carbon film; **electroluminescent** device carbon film

IT **Electroluminescent** devices

(carbon films for junctions of)

IT Printing apparatus

IA (**ink-jet**, heads, carbon films)

L68 ANSWER 23 OF 23 HCA, COPYRIGHT 2000 ACS

AN 106:42502 HCA

TI Monolithic multicomponents ceramic (MMC) substrate

AU Utsumi, Kazuaki; Shimada, Yuzo; Takamizawa, Hideo

CS Fundam. Res. Lab., NEC Corp., Kanagawa, 213, Japan

SO Mater. Res. Soc. Symp. Proc. (1986), 72(Electron. Packag. Mater. Sci. 2), 15-26

CODEN: MRSPDH; ISSN: 0272-9172

DT Journal

LA English

AB New monolithic multicomponents ceramic (MMC) substrates were made using a glass-ceramic material, low firing high-dielec.-const. ceramic material, metal oxide resistance materials, piezoelec. ceramic material, and metal conductors. In the MMC substrate, many passive components, such as capacitors, resistors, and wiring conductors, can be included. Designed-space can be formed in the substrate with new designed-space forming technol. The MMC substrates were applied to voltage-controlled crystal oscillators, RC active filters, memory cards for personal computers, a.c. thin-film **electroluminescent** devices, and drop-on demand **ink jet heads**. These devices using MMC substrate showed good elec. properties and achieved miniaturization, multifunction, and cost redn. The new monolithic multicomponent ceramic substrate can be applied to many kinds of hybrid microcircuits and electronic components and devices.

CC 76-14 (Electric Phenomena)

SO Mater. Res. Soc. Symp. Proc. (1986), 72(Electron. Packag. Mater. Sci. 2), 15-26

CODEN: MRSPDH; ISSN: 0272-9172

DT Journal

LA English

Section cross-reference(s): 73, 74

IT **Electrolumin scent** devices
(film, a.c., monolithic multicomponent ceramic substrates for)

IT Printing, nonimpact
(**ink-jet**, monolithic multicomponent ceramic substrates for)

=> d 169 1-23 bib abs hitind

L69 ANSWER 1 OF 23 HCA COPYRIGHT 2000 ACS

AN 131:300551 HCA

TI **Ink-jet-printable image-transfer medium, image transferring process, and image-printed cloth**

IN Higuma, Masahiko; Sato, Hiroko; Shino, Yoshiyuki

PA Canon K. K., Japan

SO Jpn. Kokai Tokkyo Koho, 12 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

| IT | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|---------------|------|----------|-----------------|----------|
| PI | JP 11293572 | A2 | 19991026 | JP 1999-33986 | 19990212 |
| PRAI | JP 1998-31713 | | 19980213 | | |

AB Title medium for **ink-jet** printing of fabrics with high image quality and simplicity comprises (A) an ink absorption layer (absorption coeff. $K_a > 1$) and (B) a transfer layer, wherein A and B are peelable from each other by parting treatment or by inserting a releasing layer between them, and B comprises thermoplastic resin particles, (cation-modified) thermoplastic resin binder, and inorg. particles. The image transferring process comprises (I) formation of image on B layer by **ink-jet** printing, (II) lying above mentioned transfer medium on the receptor (e.g., cloth) before image formed, (III) transferring the image on B layer to the receptor. Thus, image was thermally transferred onto a 100%-cotton T-shirt from a transfer layer prepd. from Orgasol 3501EXD NAT (nylon particles, av. size 12 .mu.m) 100, Hytech E-8778 (acrylic acid-ethylene copolymer) binder (25% solids content) 240, and water 100 parts, showing image d. 1.51, transferring time 15 s, flexibility 36 mm, and good image quality.

LA ICM D06P005-00

IC ICS D06P005-00; B41J002-01; B41M005-00; B44C001-165

CC 40-6. (Textiles and Fibers)

Section cross-reference(s): 42, 74

ST image thermal transfer medium textile printing; particulate thermoplastic resin image transfer medium; thermoplastic binder image transfer medium; **ink jet** printing medium image transfer textile

- IT Silsesquioxanes
(Me, medium contg.; prepn. of **ink-jet**
-printable image-transfer medium for fabrics)
- IT Polyvinyl acetals
(arom., medium contg.; prepn. of **ink-jet**
-printable image-transfer medium for fabrics)
-
- IT Polyesters, uses
(base film; prepn. of **ink-jet**-printable
image-transfer medium for fabrics)
- IT Polyurethanes, uses
(binder; prepn. of **ink-jet**-printable
image-transfer medium for fabrics)
- IT Textiles
(cotton; prepn. of **ink-jet**-printable
image-transfer medium for fabrics)
-
- IT Polyamides, uses
(medium contg.; prepn. of **ink-jet**-printable
image-transfer medium for fabrics)
- IT Polysiloxanes, uses
(parting agent; prepn. of **ink-jet**-printable
image-transfer medium for fabrics)
- IT Fillers
Parting materials
Textiles
Thermal-transfer printing
(prepn. of **ink-jet**-printable image-transfer
medium for fabrics)
-
- IT Textile printing
(transfer; prepn. of **ink-jet**-printable
image-transfer medium for fabrics)
- IT 25038-59-9, uses
(base film; prepn. of **ink-jet**-printable
image-transfer medium for fabrics)
- IT 9003-03-6, EL Polymer NWS-16 9010-77-9, Hytec E-8778
217487-91-7, Takelac W-635c
(binder; prepn. of **ink-jet**-printable
image-transfer medium for fabrics)
- IT 24937-78-8, Chemipearl V-300 25191-04-2, Vestamelt 430P1
233757-82-9, Orgasol 3501EDX-NAT
(medium contg.; prepn. of **ink-jet**-printable
image-transfer medium for fabrics)
- IT 1344-28-1, Aluminum oxide (Al₂O₃); uses 7631-86-9, Mizukasil P
78A, uses
(particulate filler; prepn. of **ink-jet**
-printable image-transfer medium for fabrics)
- IT 9016-00-6, TPR 6712 31900-57-9, Dimethylsilanediol homopolymer
(parting agent; prepn. of **ink-jet**-printable
image-transfer medium for fabrics)
- IT 9002-88-4, Chemipearl W 400
(releasing layer; prepn. of **ink-jet**-printable
image-transfer medium for fabrics)
-
- IT 9003-03-6, EL Polymer NWS-16 9010-77-9, Hytec E-8778
217487-91-7, Takelac W-635c
(binder; prepn. of **ink-jet**-printable
image-transfer medium for fabrics)

L69 ANSWER 2 OF 23 HCA COPYRIGHT 2000 ACS
 AN 131:137901 HCA
 TI Fabrication of organic semiconductor devices using **ink jet printing**
 IN Sturm, James C.; Wu, Chung Chih; Marcy, Duane; Hebner, Thomas R.
 PA Trustees of Princeton University, USA
 SO PCT Int. Appl., 28 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|-----------------|----------|
| PI | WO 9939373 | A2 | 19990805 | WO 1999-US1914 | 19990129 |
| | W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG | | | | |
| | AU 9924815 | A1 | 19990816 | AU 1999-24815 | 19990129 |
| PRAI | US 1998-PV73068 | | 19980130 | | |
| | US 1999-238708 | | 19990128 | | |
| | WO 1999-US1914 | | 19990129 | | |
| AB | Methods for forming a pattern on a substrate by deposition of an org. material are described which entail depositing org. material in a solvent onto a substrate by ink-jet printing ; and evapg. the solvent so that the org. material remains on the substrate. The methods may be used to fabricate semiconductor devices such as thin-film FETs and light-emitting devices (e.g., using polyvinyl carbazole films doped with luminescent dyes as the emitter), and active or passive display matrixes. | | | | |
| IC | ICM H01L021-02 | | | | |
| CC | 76-3 (Electric Phenomena) | | | | |
| ST | Section cross-reference(s): 73, 74 org semiconductor device fabrication ink jet printing ; electroluminescent device fabrication ink jet printing ; thin film FET fabrication ink jet printing | | | | |
| IT | Electroluminescent devices Ink-jet printing Semiconductor device fabrication Thin film transistors (fabrication of org. semiconductor devices using ink jet printing) | | | | |
| IT | Field effect transistors (thin-film; fabrication of org. semiconductor devices using ink jet printing) | | | | |

IT 91-44-1, Coumarin 47 7385-67-3, Nile red 38215-36-0, Coumarin 6
 (fabrication of org. semiconductor devices using **ink jet printing**)
 IT 25067-59-8, Polyvinyl carbazole
 (fabrication of org. semiconductor devices using **ink jet printing**)
 IT 67-66-3, Chloroform, uses
 (solvent; fabrication of org. semiconductor devices using **ink jet printing**)

L69 ANSWER 3 OF 23 HCA COPYRIGHT 2000 ACS
 AN 131:136566 HCA
 TI Multicolor organic light-emitting diodes
 processed by hybrid **inkjet printing**
 AU Chāng, Shun-Chi; Liu, Jie; Bharathan, Jayesh; Yang, Yang; Onohara, Jun; Kido, Junji
 CS Dep. Mater. Sci. Eng., Univ. California, Los Angeles, CA, 90095, USA
 SO Adv. Mater. (Weinheim, Ger.) (1999), 11(9), 734-737
 CODEN: ADVMEW; ISSN: 0935-9648

PB Wiley-VCH Verlag GmbH
 DT Journal
 LA English
 AB Controllable patterning of red-green-blue org. LEDs (OLEDs) was produced using the hybrid **inkjet printing** technique (HIJP). A polymer buffer layer of poly-9-vinylcarbazole (PVK) was the material for the blue emission of the LED and it sealed the pinholes in the **inkjet**-printed layer and served as the hole transport layer for the red- and green-emission LEDs. The green emission was achieved by **inkjet printing** of tris(4-methyl-8-quinolinato)Al(III) (Almq3) mols. on the PVK layer. Similarly, the red emission is obtained by the HIJP deposition of 4-(di-cyanomethylene)-2-methyl-6-(4-dimethylaminostyryl)-4-H-pyran (DCM) on the PVK buffer layer. The device performance of the HIJP OLEDs was about 10 times lower than that of regular OLEDs which was explained by their fabrication in air.
 L69
 AN
 TI
 CC 73-12 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
 Section cross-reference(s): 76
 ST multicolor org LED fabrication hybrid **inkjet printing**;
 SO polyvinylcarbazole aluminum methylquinolinato cyanomethylene aminostyryl pyran multicolor LED
 IT **Electroluminescent devices**
 IT **Ink-jet printing**
 IT (multicolor org. LEDs fabricated by hybrid **inkjet printing** with red emission PVK layer contg.)
 IT Electric current-potential relationship
 IT Luminescence, **electroluminescence**
 (of multicolor org. LEDs fabricated by hybrid **inkjet printing** with red emission PVK layer contg.)
 IT 25067-59-8, Poly-9-vinylcarbazole
 (multicolor org. LEDs fabricated by hybrid **inkjet printing** with blue emission PVK layer)

IT 14752-00-2
(multicolor org. LEDs fabricated by hybrid
inkjet printing with green emission PVK layer contg.)

IT 51325-91-8, DCM
(multicolor org. LEDs fabricated by hybrid
inkjet printing with red emission PVK layer contg.)

L69 ANSWER 4 OF 23 HCA COPYRIGHT 2000 ACS

AN 131:131214 HCA

TI Ink-jet-printable image-transfer medium, process
for transferring image, and cloth imaged by this process

IN Sato, Yuko; Higuma, Masahiko; Shino, Yoshiyuki

PA Canon Kabushiki Kaisha, Japan

SO Eur. Pat. Appl., 21 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------|------|------|-----------------|------|
|------------|------|------|-----------------|------|

| | | | | |
|----------------------------------------------------------------------------------------------|----|----------|----------------|----------|
| PI EP 933225 | A1 | 19990804 | EP 1999-101499 | 19990127 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO | | | | |

| | | | | |
|-------------|----|----------|---------------|----------|
| JP 11277896 | A2 | 19991012 | JP 1999-18309 | 19990127 |
|-------------|----|----------|---------------|----------|

PRAI JP 1998-16222 19980128

AB Disclosed is an image-transfer medium for ink-jet
printing of fabrics comprising a base material, and a releasing
layer and a transfer layer, both, provided on the base material,
wherein the transfer layer comprises fine particles of a
thermoplastic resin, a thermoplastic resin binder, inorg. fine
particles and a coupling agent. The transferred images exhibit high
optical d., clearness, and washfastness. A typical transfer layer
was prepd. from a compn. contg. Orgasol 3501EDXNAT (nylon particles,
size 10 .mu.m) 100, Hytech E-8778 (acrylic acid-ethylene copolymer)
binder (solids content 100 parts) 400, silica particles (size 3
.mu.m) 15, SH-6040 (silane) coupling agent 15, EL Polymer
NWS-16 (acrylic cationic resin) (solids content 15 parts) 50,
surfactant (solids content 2.4 parts) 8, plasticizer 20, and
iso-PROH 200 parts.

ICM B41M005-025

CC 40-6 (Textiles and Fibers)
Section cross-reference(s): 74

ST textile thermal transfer printing medium particulate thermoplastic
resin; silica particulate textile thermal transfer printing medium;
ethylene copolymer binder textile thermal transfer printing medium;
acrylic polymer binder textile thermal transfer printing medium;
nylon particulate textile thermal transfer printing medium; silane
coupling agent textile thermal transfer printing medium; inorg
particulate textile thermal transfer printing medium; ink
jet printable textile transfer printing medium

IT Polyurethanes, uses
(binder; ink-jet-printable thermal-transfer

printing media for fabrics)

IT Fillers
(**ink-jet**-printable thermal-transfer printing media for fabrics)

IT Polyamides, uses
(particulate filler; **ink-jet**-printable thermal-transfer printing media for fabrics)

IT Coupling agents
(silanes; **ink-jet**-printable thermal-transfer printing media for fabrics)

IT Thermal-transfer printing
(textile; **ink-jet**-printable thermal-transfer printing media for fabrics)

IT Textile printing
(thermal-transfer; **ink-jet**-printable thermal-transfer printing media for fabrics)

IT Transfers
(thermal; **ink-jet**-printable thermal-transfer printing media for fabrics)

IT 9002-88-4, A-C 6A
(AC Polyethy A-6, particulate filler; **ink-jet**-printable thermal-transfer printing media for fabrics)

IT 7631-86-9, Silica, uses
(Mizukasil P 78A, fine particulate filler; **ink-jet**-printable thermal-transfer printing media for fabrics)

IT 9010-77-9, Hytec E-8778 24937-78-8, Chemipearl V-300
217487-91-7, Takelac W-635c
(binder; **ink-jet**-printable thermal-transfer printing media for fabrics)

IT 1760-24-3, SH-6020 2530-83-8, SH-6040 61417-49-0, KR-TTS
65380-84-9, KR-44
(coupling agent; **ink-jet**-printable thermal-transfer printing media for fabrics)

IT 233757-82-9, Orgasol 3501EDX-NAT
(particulate filler; **ink-jet**-printable thermal-transfer printing media for fabrics)

L69 ANSWER 5 OF 23 HCA COPYRIGHT 2000 ACS

AN 131:51132 HCA

TI Preparation of organic electroluminescent device by direct **ink-jet** printing method

IT Yoshimori, Koichi; Naka, Shigeki; Shibata, Miki; Okada, Hiroyuki; Mekawa, Hiroyoshi

CS Department of Engineering, Toyama University, Japan

SO Mol. Electron. Bioelectron. (1999), 10(1), 29-36
CODEN: MOEBFM

PB Oyo Butsuri Gakkai Yuki Bunshi, Baioerekutoronikusu Bunkakai

DT Journal; General Review

LA Japanese

AB A review with 11 refs. on the title subject, discussion including the prepn. of ink, microscopic observations of org. film fabricated,

etc.

CC 73-0 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 42

ST review **ink jet** printing org.

electroluminescent device

IT **Electroluminescent** devices

Ink-jet printing

(prepn. of org. **electroluminescent** device by direct

ink-jet printing method)

L69 ANSWER 6 OF 23 HCA COPYRIGHT 2000 ACS

AN 130:359213 HCA

TI Patterning approaches and system power efficiency considerations for organic LED displays

AU Sturm, J. C.; Pschenitzka, F.; Hebner, T. R.; Lu, M. H.; Wu, C. C.; Wilson, W.

CS ~~Center for Photonics and Optoelectronic Materials (POEM) Department of Electrical Engineering, Princeton University, Princeton, NJ, 08544, USA~~

SO Proc. SPIE-Int. Soc. Opt. Eng. (1998), 3476 (Organic Light-Emitting Materials and Devices II), 208-216

CODEN: PSISDG; ISSN: 0277-786X

PB SPIE-The International Society for Optical Engineering

DT Journal

LA English

AB In this paper we will focus on the various issues which reduce the power efficiency of a complete display system vs. that of a single isolated org. LED, and then discuss the impact of these issues on display integration and design. Crit. issues are the necessity of an active matrix design for high definition displays, and the desire for a power-efficient approach for full color. Both dry-etching and **ink jet** printing will be described as options for achieving patterned films.

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 73, 76

ST patterning plasma etching **ink jet** printing org.

LED display; org **light emitting diode**

~~OLED power efficiency dry etching; full color active matrix org LED display~~

IT **Electroluminescent** devices

Heat transfer

Ink-jet printing

Physicochemical simulation

Plasma etching

(patterning approaches and system power efficiency considerations for org. LED displays)

IT 25067-59-8, Poly(9-vinylcarbazole)

(patterning approaches and system power efficiency considerations for org. LED displays)

IT 91-44-1, Coumarin 47 7385-67-3, Nile Red 38215-36-0, Coumarin 6

(patterning approaches and system power efficiency considerations for org. LED displays)

L69 ANSWER 7 OF 23 HCA COPYRIGHT 2000 ACS
 AN 130:313171 HCA
 TI Chemistry of functional colorants
 AU Nakazumi, Hiroyuki
 CS Coll. Eng., Univ. Osaka Prefect., Sakai, 599-8531, Japan
 SO Kagaku to Kogyo (Tokyo) (1999), 52(5), 594-597
 CODEN: KAKTAF; ISSN: 0022-7684
 PB Nippon Kagakkai
 DT Journal; General Review
 LA Japanese

AB A review with 6 refs. on dyes and org. pigments used in CD-R (compact disk recordable) and ink-jet printing, org. electroluminescent elements, and other colorants which identify chiral mols.

CC 41-0 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)

Section cross-reference(s): 73, 74

ST review functional dye compact disk recordable; ink jet printing pigment review; electroluminescence element review; chiral mol identification colorant review

IT Dyes
 Electroluminescent phosphors

Ink-jet printing

Pigments (nonbiological)

(chem. of functional colorants)

L69 ANSWER 8 OF 23 HCA COPYRIGHT 2000 ACS
 AN 130:189518 HCA
 TI Electroluminescent device and manufacture thereof
 IN Kobayashi, Hidekazu; Kiguchi, Hiroshi
 PA Seiko Epson Corporation, Japan
 SO PCT Int. Appl., 37 pp.
 CODEN: PIXXD2
 DT Patent
 LA Japanese

FAN. CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----------------------------------------------------------------------------|------|----------|-----------------|----------|
| WO 9912396 | A1 | 19990311 | WO 1998-JP3675 | 19980819 |
| W: US | | | | |
| RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE | | | | |
| JP 11074083 | A2 | 19990316 | JP 1997-236326 | 19970901 |
| JP 1997-236326 | | 19970901 | | |

AB The invention relates to an electroluminescent device that comprises a light-emitting layer doped with a fluorescent substance with a concn. gradient. An ink-jet printing techniques may be employed to pattern an org. layer in producing a color

AN 130:189518 HCA

TI Electroluminescent device and manufacture thereof

IN Kobayashi, Hidekazu; Kiguchi, Hiroshi

PA Seiko Epson Corporation, Japan

SO PCT Int. A. 1., 37 pp.

CODEN: PIXXD2

electroluminescent display.
 IC ICM H05B033-14
 ICS H05B033-22; H05B033-10; H05B033-12
 CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and
 Other Reprographic Processes)
 Section cross-reference(s): 73
 ST electroluminescent device ink jet
 printing
 IT Optical imaging devices
 (color; electroluminescent device and manuf. thereof)
 IT Electroluminescent devices
 Ink-jet printing
 (electroluminescent device and manuf. thereof)
 IT 147-14-8, Copper phthalocyanine 198-55-0, Perylene 25067-59-8,
 Polyvinylcarbazole 38215-36-0, Coumarin 6 65181-78-4, TPD
 (electroluminescent device and manuf. thereof)

L69 ANSWER 9 OF 23 HCA COPYRIGHT 2000 ACS

AN 130:67905 HCA

TI Image transfer medium for ink-jet recording and
 image-transfer printing process

IN Sato, Yuko; Katayama, Masato; Higuma, Masahiko; Shino, Yoshiyuki

PA Canon Kabushiki Kaisha, Japan

SO Eur. Pat. Appl., 17 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|----------------|-------------------------------------------------------------|----------|-----------------|----------|
| PI | EP 881092 | A2 | 19981202 | EP 1998-109788 | 19980528 |
| | EP 881092 | A3 | 19981223 | | |
| | R: | AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, | | | |
| | | PT, IE, SI, LT, LV, FI, RO | | | |
| | JP 10329415 | A2 | 19981215 | JP 1997-156075 | 19970530 |
| | JP 11042896 | A2 | 19990216 | JP 1997-215661 | 19970726 |
| | JP 11042898 | A2 | 19990216 | JP 1997-215664 | 19970726 |
| | CA 2238234 | AA | 19981130 | CA 1998-2238234 | 19980522 |
| | AU 9869792 | A1 | 19981203 | AU 1998-69792 | 19980529 |
| | CN 1200992 | A | 19981209 | CN 1998-102491 | 19980529 |
| PRAI | JP 1997-156075 | | 19970530 | | |
| | JP 1997-215661 | | 19970726 | | |
| | JP 1997-215664 | | 19970726 | | |

AB An image-transfer medium, for ink-jet recording, comprises a base material, e.g. film, cloth or paper, and a releasing layer and a transfer layer provided on the base material, where the transfer layer has fine particles of a thermoplastic resin, a thermoplastic resin binder, a cationic resin and inorg. fine particles 3-20%, based on the total wt. of the fine particles of the thermoplastic resin and the thermoplastic resin binder, optionally a water repellent lubricant layer on the back side of the base material. A coating contg. Chemipearl V 300, acrylic

IT 000000

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acid-ethylene copolymer, SiO₂, and EL Polymer NWS 16 (solids 35%), plasticizer, and surfactant was applied to paper backing and **ink jet** printed to give an image transfer medium for thermal transfer to a cotton fabric, testing image quality and fastness to washing.

IC ICM B41M005-00
CC 42-11 (Coatings, Inks, and Related Products)
ST EVA particle transfer medium; acrylic acid ethylene copolymer binder transfer medium; silica filled transfer medium; cationic acrylic resin transfer medium; water repellent silicone transfer medium; **ink jet** printable transfer medium; paper backing transfer medium
IT Paper

(base materials; image transfer medium for **ink-jet** recording and transfer layer contg. thermoplastic resin particles, a thermoplastic resin binder, a cationic resin and inorg. fine particles)

IT Decalcomanias
(image transfer medium for **ink-jet** recording and transfer layer contg. thermoplastic resin particles, a thermoplastic resin binder, a cationic resin and inorg. fine particles)

IT **Ink-jet** printing
(on coat-on transfer layer for image transfer medium)

IT Transfers
(thermal, **ink-jet** printed; image transfer medium for **ink-jet** recording and transfer layer contg. thermoplastic resin particles, a thermoplastic resin binder, a cationic resin and inorg. fine particles)

IT 9003-03-6, EL Polymer NWS 16 24937-78-8, Chemipearl V 300 110507-15-8, PAA HCl 10L 217487-91-7, Takelac W 635C
(in coat-on transfer layer for image transfer medium)

L69 ANSWER 10 OF 23 HCA COPYRIGHT 2000 ACS

AN 130:4412 HCA

TI Optical patterning of polymer light-emitting device

AU Tada, Kazuya; Onoda, Mitsuyoshi; Nakayama, Hiroshi

CS Department of Electrical Engineering, Himeji Institute of Technology, Himeji, 671-2201, Japan

SO Jpn. J. Appl. Phys., Part 2 (1998), 37(10A), L1181-L1183

CODEN: JAPLD8; ISSN: 0021-4922

PB Japanese Journal of Applied Physics

DT Journal

LA English

AB Emission characteristics of a polymer light-emitting device (PLED) with an

indium-tin-oxide/poly(3-hexylthiophene)/ semitransparent-Al structure are drastically changed upon photo-irradn. in air. After the photo-irradn. of PLED, current passing through the device decreased by about one order of magnitude and the emission disappeared. Patterned emission from the PLED utilizing this effect

(in coat-on transfer layer for image transfer medium)

L69 ANSWER 10 OF 23 HCA COPYRIGHT 2000 ACS

AN 130:4412 HCA

TI Optical patterning of polymer light-emitting device

AU Tada, Kazuya; Onoda, Mitsuyoshi; Nakayama, Hiroshi

CS Department of Electrical Engineering, Himeji Institute of Technology, Himeji, 671-2201, Japan

SO Jpn. J. Appl. Phys., Part 2 (1998), 37(10A), L1181-L1183

CODEN: JAPLD8; ISSN: 0021-4922

PB Japanese Journal of Applied Physics

DT Journal

LA English

AB Emission characteristics of a polymer light-emitting device (PLED) with an

indium-tin-oxide/poly(3-hexylthiophene)/ semitransparent-Al structure are drastically changed upon photo-irradn. in air. After the photo-irradn. of PLED, current passing through the device decreased by about one order of magnitude and the emission disappeared. Patterned emission from the PLED utilizing this effect

is demonstrated. The obsd. modification should originate from a slight photo-oxidn. at the polymer/Al interface and/or polymer layer. The optical patterning method mentioned here can be carried out after completing the device fabrication, in contrast to other methods such as ink-jet printing technol., in which the patterning of the polymer must be carried out before deposition of the metal electrode.

37-5 (Plastics Manufacture and Processing)

Section cross-reference(s): 73, 76

Conducting polymers

Electroluminescent devices

(optical patterning of polymer light-emitting device)

7429-90-5, Aluminum, properties 50926-11-9, Indium-tin-oxide
104934-50-1, Poly(3-hexylthiophene)

(optical patterning of polymer light-emitting device)

L69 ANSWER 11 OF 23 HCA COPYRIGHT 2000 ACS

AN 129:308534 HCA

TI **Ink-jet** printing paper for thermal-transfer printing and thermal-transfer method

IN Kobayashi, Motokazu

PA Canon K. K., Japan

SO Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 10250222 | A2 | 19980922 | JP 1997-63092 | 19970317 |

PI JP 10250222 A2 19980922 JP 1997-63092 19970317

AB The title paper for thermal-transfer printing comprises a support coated with a thermal transfer layer contg. a thermoplastic polymer and a heat-crosslinking polymer. A thermal transfer method comprises the steps of forming an image on the thermal transfer layer of the paper by ink-jet printing, contacting the layer with a thermal-transfer receptor, thermally transferring the layer to the receptor, and peeling the paper support off from the layer. A thermally transferred material obtained by the above process is also claimed. The paper provides durable images on soft receptors such as cloths.

IC ICM B41M005-00

ICS B41M005-00; D06B011-00; D06P005-00; D21H027-36

CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 38

ST thermal transfer material ink jet printing;

thermoplastic polymer ink jet printing receptor;

crosslinkable polymer ink jet printing receptor

IT Aminoplasts

(Thermotite 3HSP; ink-jet printing paper for

PI JP 10250222 A2 19980922 JP 1997-63092 19970317

AB The title paper for thermal-transfer printing comprises a support coated with a thermal transfer layer contg. a thermoplastic polymer and a heat-crosslinking polymer. A thermal transfer method comprises the steps of forming an image on the thermal transfer layer of the paper by ink-jet printing, contacting the layer with a thermal-transfer receptor, thermally transferring the layer to the receptor, and peeling the paper support off from the layer. A thermally transferred material obtained by the above process is also claimed. The paper provides durable images on soft receptors such as cloths.

thermal-transfer printing)
 IT Polyester rubber
 (Vylon 500; ink-jet printing paper for
 thermal-transfer printing)
 IT Ink-jet printing paper
 Thermal-transfer printing materials
 (ink-jet printing paper for thermal-transfer
 printing)
 IT Aminoplasts
 Aminoplasts
 Epoxy resins, uses
 (ink-jet printing paper for thermal-transfer
 printing)
 IT 9003-03-6, Poly(acrylic acid) ammonium salt
 (EL Polymer NWS 16; ink-jet
 printing paper for thermal-transfer printing)
 IT 9011-05-6, Formaldehyde-urea copolymer
 (Thermotite 3HSP; ink-jet printing paper for
 thermal-transfer printing)
 IT 9002-88-4 9003-08-1, Sumirez Resin 613 214474-91-6, Polyfix PG
 264 214474-93-8, R 1410
 (ink-jet printing paper for thermal-transfer
 printing)

L69 ANSWER 12 OF 23: HCA COPYRIGHT 2000 ACS
 AN 129:246520 HCA
 TI Perylene crown ether fluorescent dyes, their preparation and their
 use as fluorescent complex formers for metallic materials
 IN Langhals, Heinz; Jona, Wolfgang
 PA Germany
 SO Ger. Offen., 32 pp.
 CODEN: GWXXBX
 DT Patent
 LA German
 FAN.CNT 2

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|------------------|----------|
| DE 19709008 | A1 | 19980910 | DE 1997-19709008 | 19970305 |
| WO 9839333 | A1 | 19980911 | WO 1998-EP1023 | 19980223 |
| W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG AU 9867237 A1 19980922 AU 1998-67237 19980223 EP 966468 A1 19991229 EP 1998-912370 19980223 R: CH, DE, FR, GB, IT, LI PRAI DE 1997-19709004 19970305 | | | | |

DE 1997-19709008 19970305
 WO 1998-EP1023 19980223
 OS MARPAT 129:246520
 AB Perylenetetracarboxylic diimides with a crown ether group connected to .gtoreq.1 N atom are obtained from crown ether amine derivs. and the appropriate perylenetetracarboxylic deriv. The dyes have the ability to complex with metals, forming strongly fluorescing complexes and thus may be used for fluorimetric detn. of metal ions. Thus, 2-(aminomethyl)-15-crown-5 was condensed with N-(1-hexylheptyl)perylene-3,4,9,10-tetracarboxylic acid-3,4-dianhydride-9,10-imide to give a fluorescent dye with a 1-hexylheptyl group and a 2-methylene-15-crown-5 group. This dye formed fluorescent complexes with Fe and other metals.

IC ICM C09B005-62
 ICS C09K011-06; D06P001-22; C09D017-00; C09D011-00; C09D005-06; C09D005-22; G01N021-63; G01N021-64; G01N021-66; G01N021-76; G01N031-00

ICA D06P003-32; D06P003-30; D06P003-20; D06P003-64; D06L003-12; D06P003-04; D06P003-60

ICI C08K005-56

CC 41-5 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)
 Section cross-reference(s): 37, 40, 42, 73, 74, 80

IT Art 1998-EP1023 19980223
 OS Dye lasers
 AB **Electroluminescent devices**
 Electrophotography
 Fluorescent indicators
 Fluorometry
Ink-jet inks
 Inks
 Nonlinear optical materials
 Photoconductors
 Photography
 Photopolymerization catalysts
 Printing inks
 Recycling of polymeric materials
 Scintillators
 Solar collectors

ICA Vat dyeing; D06P003-30; D06P003-32; D06P003-34; D06L003-12; (prepn. of fluorescent perylene crown ether dyes for)

L69 ANSWER 13 OF 23 HCA COPYRIGHT 2000 ACS
 AN 129:237595 HCA
 TI A printer model for color printing 42, 73, 74, 80
 AU Zeng, Huanzhao; Chin, Bob
 CS Encad, Inc., San Diego, CA, USA
 SO IS&T's Annu. Conf. (1997), 50th, 284-288
 CODEN: ISACFN
 PB Society for Imaging Science and Technology
 DT Journal
 LA English

AB A new model to predict color for dot-to-dot color printing is presented. The Neugebauer narrow-band color mixing model was applied with modifications. The Yule-Nielsen factor n is optimized by minimizing $\text{DELTA.E} * L * a * b *$ or $\text{DELTA.E} * 94$. Dot area at each wavelength was calcd. by the Balasubramanian's cellular model with eighty-one primaries. Neugebauer colorimetric quality factor (CQF) was applied as a weighting function for the optimization of dot areas. The application of the CQF decreases av. color difference significantly. We also analyzed the difference of optimizing the Yule-Nielsen n -value by minimizing $\text{DELTA.E} * L * a * b *$ and by minimizing $\text{DELTA.E} * 94$. There is almost no further improvement in the optimization of the n -value by using $\text{DELTA.E} *$ instead of $\text{DELTA.E} * L * a * b *$ with the data set we used.

CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT **Ink-jet printers**
(printer model for color printing)

L69 ANSWER 14 OF 23 HCA COPYRIGHT 2000 ACS

AN 129:106256 HCA

TI Multiplexed molecular analysis apparatus and method

IN Eggers, Mitchell D.; Balch, William J.; Hogan, Michael E.; Mendoza, Leopoldo G.

PA Genometrix Inc., USA

SO PCT Int. Appl., 110 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------|------|------|-----------------|------|
|------------|------|------|-----------------|------|

| | | | | |
|---------------|----|----------|-----------------|----------|
| PI WO 9829736 | A1 | 19980709 | WO 1997-US24098 | 19971231 |
|---------------|----|----------|-----------------|----------|

W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG

| | | | | |
|------------|----|----------|---------------|----------|
| AU 9866463 | A1 | 19980731 | AU 1998-66463 | 19971231 |
|------------|----|----------|---------------|----------|

PRAI US 1996-34627 19961231

WO 1997-US24098 19971231

AB A method and app. are disclosed for analyzing mol. structures within a sample substance using an array having a plurality of test sites upon which the sample substance is applied. The invention is also directed to a method and app. for constructing mol. arrays having a plurality of test sites. The invention allows for definitive high throughput anal. of multiple analytes in complex mixts. of sample substances. A combinatorial anal. process is described that results

PI 9829736

W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG

in the creation of an array of integrated chem. devices. These devices operate in parallel, each unit providing specific sets of data that, when taken as a whole, give a complete answer for a defined expt. This approach is uniquely capable of rapidly providing a high d. of information from limited amts. of sample in a cost-effective manner. Clean glass microscope cover slides were surface derivatized with 3-aminopropyltrimethoxysilane. A Hamilton 2200 Microlab robot was used to print a microarray of N-hydroxysuccinimide-activated haptens (digoxigenin, fluorescein, and biotin) on the glass substrate. To detect the immobilized haptens, the glass slides were rinsed and then incubated with streptavidin-horseradish peroxidase (HRP), anti-digoxigenin-HRP, and anti-fluorescein-HRP conjugates. The slides were imaged using chemiluminescent substrate (SuperSignal Substrate) and a proximal CCD detector.

IC ICM G01N025-20
ICS G01N027-30; G01N021-29; G01N021-01; G01N021-64; G01N033-53;
G01N033-566; G01N033-543; C12Q001-68; C12P019-34; C12M001-24
CC 9-1 (Biochemical Methods)
Section cross-reference(s): 1, 3, 15
IT CCD cameras
Diagnosis
Drug screening
Immunoassay
Ink-jet printers
Nucleic acid amplification (method)
Nucleic acid hybridization
PCR (polymerase chain reaction)

Robotics
(multiplexed mol. anal. app. and method)

IT **Electroluminescent phosphors**
Fluorescent substances
(target analyte labeled with; multiplexed mol. anal. app. and method)

L69 ANSWER 15 OF 23 HCA COPYRIGHT 2000 ACS

AN 129:101254 HCA

TI Polymer light-emitting logos processed by the **ink-jet printing technology**

AU Yang, Yang; Bharathan, Jayesh

CS Department of Materials Science and Engineering, University of California - Los Angeles, Los Angeles, CA, 90095-1595, USA

SO Proc. SPIE-Int. Soc. Opt. Eng. (1998), 3279(Light-Emitting Diodes: Research, Manufacturing, and Applications II), 78-86

CODEN: PSISDG; ISSN: 0277-786X

PB SPIE-The International Society for Optical Engineering

DT Journal; General Review

LA English

AB A review with 8 refs. **Ink-jet printing (IJP)** technol. is a popular technol. for desktop publishing. Since some of the conducting (or conjugated) polymers are soln. processable, IJP technol. becomes an ideal method for printing polymer

IT (multiplexed mol. anal. app. and method)

light-emitting diodes with high resolu.

In this Manuscript, the authors present the 1st successful demonstration of patterning the polymer electroluminescent devices using the IJP technol. Unfortunately due to the dot form printing by the IJP, the polymer film printed from an ink-jet printer consists of pin-holes. This makes it unsuitable for fabricating high quality polymer electronic devices, particularly for devices in the sandwich structure. In this Manuscript, the authors submit a hybrid structure, which consists of an ink-jet printed layer in conjunction with another uniform spin coated polymer layer, as an alternative to the regular ink-jet printed structure. The uniform layer serves as a buffer layer to seal the pin holes and the IJP layer is the layer consisting of the desired pattern, for example the red-green-blue dots for a multicolor display. To demonstrate, the authors applied this hybrid technol. to fabricate efficient and large area polymer light-emitting logos. The use of this concept represents a whole new technol. of fabricating polymer electronic device with lateral patterning capability.

CC 73-0 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

ST review polymer LED ink jet printing

IT Ink-jet printing

(polymer light-emitting logos processed by ink-jet printing technol.)

IT Electroluminescent devices

(polymer; polymer light-emitting logos processed by ink-jet printing technol.)

L69 ANSWER 16 OF 23 HCA COPYRIGHT 2000 ACS

AN 129:60520 HCA

TI Polymer electroluminescent devices processed by ink-jet printing: I. Polymer light-emitting logo

AU Bharathan, Jayesh; Yang, Yang

CS Department of Materials Science and Engineering, University of California-Los Angeles, Los Angeles, CA, 90095-1595, USA

SO Appl. Phys. Lett. (1998), 72(21), 2660-2662

CODEN: APPLAB; ISSN: 0003-6951

PB American Institute of Physics

DT Journal

LA English

AB Ink-jet printing (IJP) technol. is a popular technol. for desktop publishing. Since some of the conducting (or conjugated) polymers are soln. processable, IJP technol. becomes an ideal method for printing polymer light-emitting diodes with high resolu. Unfortunately, the polymer film printed from an ink-jet printer usually consists of pin-holes, and this intrinsic character makes it unsuitable for fabricating high quality polymer electronic devices, particularly for devices in the sandwich structure. In this letter, we submit a hybrid structure, which consists of an ink-jet printed layer in conjunction with another uniform spin coated polymer layer, as an

alternative to the regular ink-jet printed structure. The uniform layer serves as a buffer layer to seal the pin-holes and the IJP layer is the layer consisting of the desired pattern, for example the red-green-blue dots for a multicolor display. To demonstrate, we applied this hybrid technol. to fabricate efficient and large area polymer light-emitting logos. The use of this concept represents a whole new technol. of fabricating polymer electronic devices with lateral patterning capability.

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST polymer electroluminescent device ink jet printing

IT Electroluminescent devices Ink-jet printing

(polymer electroluminescent devices processed by ink-jet printing)

IT Poly(arylenealkenyls)

(polymer electroluminescent devices processed by ink-jet printing)

IT 50926-11-9, ITO 138184-36-8, MEH-PPV

(polymer electroluminescent devices processed by ink-jet printing)

IT 126213-51-2, Poly(3,4-ethylenedioxythiophene)

(polymer electroluminescent devices processed by ink-jet printing)

L69 ANSWER 17 OF 23 HCA COPYRIGHT 2000 ACS

AN 129:29064 HCA

TI Ink-jet printing apparatus for fabrics and method for detecting ink discharge

IN Watanabe, Shigeru

PA Canon K. K., Japan

SO Jpn. Kokai Tokkyo Koho, 13 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------|------|------|-----------------|------|
|------------|------|------|-----------------|------|

| | | | | |
|-------------|----|----------|----------------|----------|
| JP 10119307 | A2 | 19980512 | JP 1996-280458 | 19961023 |
|-------------|----|----------|----------------|----------|

AB Title app. has a printer head equipped with a series of nozzles in

subscanning direction and two pairs of light

emitting diode (LED) and photodiode in the subscanning direction. Ink drops are discharged from the nozzles in the order of the direction from the photodiode to LED, and defective nozzles are detd. on the basis of timing of detection by the photodiodes and timing of ink discharge. The method is applicable even to printing app. having long printer heads.

IC ICM B41J002-175

ICS B41J002-125; D06P005-00

CC 40-6 (Textiles and Fibers)

Section cross-reference(s): 74

ST **ink jet printing app textile; photodiode LED**
 detection ink discharge nozzle
 IT **Electroluminescent devices**

Ink-jet printer heads

Ink-jet printers

Ink-jet textile printing

Photodiodes

(**ink-jet printing app. for fabrics and method**
for detecting ink discharge)

L69 ANSWER 18 OF 23 HCA COPYRIGHT 2000 ACS

AN 128:14161 HCA

TI Image-transfer medium for **ink-jet printing**,
 transfer printing process, and transfer printing cloth

IN Nishioka, Yuko; Sakaki, Mamoru; Katayama, Masato; Higuma, Masahiko;
 Kudo, Mifune; Moriya, Kenichi

PA Canon Kabushiki Kaisha, Japan

SO Eur. Pat. Appl., 37 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------|------|----------|-----------------|----------|
| EP 805049 | A1 | 19971105 | EP 1997-107111 | 19970429 |

R: BE, CH, DE, FR, GB, IT, LI, NL

| | | | | |
|-------------|----|----------|----------------|----------|
| JP 10016382 | A2 | 19980120 | JP 1996-221883 | 19960806 |
|-------------|----|----------|----------------|----------|

PRAI JP 1996-130571 19960430

JP 1996-221883 19960806

AB The title transfer medium comprises a releasing layer and a transfer layer contg. fine particles of a thermoplastic resin and a polymeric binder, provided on a base material, where the polymeric binder is a thermoplastic resin. Paper was coated with a vinyl fluoride resin release layer and a transfer layer contg. EVA resin particles in a polyvinyl alc. binder at ratio 10:1 to give the title transfer medium.

IC ICM B41M003-12

ICS B41M005-00; B44C001-17

CC 42-2 (Coatings, Inks, and Related Products)

ST ethylene vinyl acetate copolymer transfer layer; polyvinyl alc binder transfer layer; transfer medium **ink jet**

IT printing; vinyl fluoride resin release layer transfer

IT Transfer printing

IT (image-transfer medium for **ink-jet printing**

images on cloth having high d., bleed resistance and fastness to laundering)

IT Transfers

(of release layer and plastic transfer layer; image-transfer medium for **ink-jet printing** images on cloth

having high d., bleed resistance and fastness to laundering)

IT Polyesters, miscellaneous

AB The title transfer medium comprises a releasing layer and a transfer layer contg. fine particles of a thermoplastic resin and a polymeric binder, provided on a base material, where the polymeric binder is a thermoplastic resin. Paper was coated with a vinyl fluoride resin release layer and a transfer layer contg. EVA resin particles in a polyvinyl alc. binder at ratio 10:1 to give the title transfer medium.

(substrate; image-transfer medium for **ink-jet** printing images on cloth having high d., bleed resistance and fastness to laundering)

IT 9004-62-0, Hydroxyethyl cellulose
(AH-15, coating transfer layer contg.; image-transfer medium for **ink-jet** printing images on cloth having high d., bleed resistance and fastness to laundering)

IT 9002-89-5, Poly(vinyl alcohol) 9004-34-6, Cellulose, uses 24936-74-1, Orgasol 3501 24937-78-8, EVA 71550-12-4, Poly(allylamine hydrochloride) 109224-11-5, Chemipearl SA 100 152986-99-7, Elastron MF-25 198907-21-0, Vestamelt 430PL 198907-34-5, Elastron MF 60 198907-38-9, EL Polymer NWS 16 198907-44-7, Takelac W 6354C 199015-55-9, Microsphere EP 28
(coating transfer layer contg.; image-transfer medium for **ink-jet** printing images on cloth having high d., bleed resistance and fastness to laundering)

IT 91104-92-6, Elastron BN-5
(crosslinker, coating transfer layer contg.; image-transfer medium for **ink-jet** printing images on cloth having high d., bleed resistance and fastness to laundering)

IT 75-02-5D, Vinyl fluoride, polymers 137264-11-0, Vestamelt 171
(release layer; image-transfer medium for **ink-jet** printing images on cloth having high d., bleed resistance and fastness to laundering)

IT 25038-59-9, Poly(ethylene terephthalate), miscellaneous
(substrate; image-transfer medium for **ink-jet** printing images on cloth having high d., bleed resistance and fastness to laundering)

L69 ANSWER 19 OF 23 HCA COPYRIGHT 2000 ACS
AN 127:207083 HCA
TI Aqueous **ink-jet** inks
IN Sakuma, Tadashi; Ueno, Tetsuya; Kawabe, Kuniyasu

PA Kao Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 09194777 | A2 | 19970729 | JP 1996-10163 | 19960124 |

AB Title inks, giving prints with high color d. and water resistance, contain siloxanes Q10(R1R2SiO)m(R3R4SiO)nQ2 (R1-R4 = C1-10 alkyl, aryl; Q1 = R5SiMe2, Q2 = R6SiMe2, R5-R6 = C1-10 alkyl, aryl, OH, NH2, epoxy, carboxy group; m, n = 0-103). An aq. dispersion contg. a dye and bispropoxylated bisphenol A-fumaric acid copolymer dimethylethanolamine salt was mixed with KM 71, diethylene glycol, glycerol, and Acetylenol EL and filtered to form a title ink.

IC ICM C09D011-00

ICS C09D011-02

AN 127:207083 HCA

IN Sakuma, Tadashi; Ueno, Tetsuya; Kawabe, Kuniyasu

PA Kao Corp., Japan

SO Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

CC 42-12 (Coatings, Inks, and Related Products)
 ST aq polyester dispersion **jet printing ink**; water
 resistance aq **jet ink** siloxane; color d aq
jet ink siloxane
 IT **Ink-jet inks**
 (aq. **ink-jet inks** contg. siloxanes
 for high color d. and water resistance)
 IT Polysiloxanes, uses
 (aq. **ink-jet inks** contg. siloxanes
 for high color d. and water resistance)
 IT Polyesters, uses
 (binder; aq. **ink-jet inks** contg.
 siloxanes for high color d. and water resistance)
 IT 192823-18-OP, Propoxylated bisphenol A-fumaric acid copolymer
 dimethylethanolamine salt 194592-66-OP
 (binder; aq. **ink-jet inks** contg.
 siloxanes for high color d. and water resistance)

L69 ANSWER 20 OF 23 HCA COPYRIGHT 2000 ACS

AN 127:36071 HCA

TI Water-thinned **ink-jet inks** containing
 dye-absorbed polymer suspensions giving bloating-free prints with
 good water resistance and fixation

IN Sakuma, Tadashi; Ueno, Tetsuya; Kawabe, Kuniyasu

PA Kao Corporation, Japan; Sakuma, Tadashi; Ueno, Tetsuya; Kawabe,
 Kuniyasu

SO PCT Int. Appl., 40 pp.

CODEN: PIXXD2

DT Patent

LA Japanese

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|---------------------------------------------------------------------------|------|----------|-----------------|----------|
| PI | WO 9716495 | A1 | 19970509 | WO 1996-JP3128 | 19961025 |
| | W: US | | | | |
| IT | RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE | | | | |
| | JP 09183931 | A2 | 19970715 | JP 1996-266860 | 19961008 |
| | JP 09183932 | A2 | 19970715 | JP 1996-276698 | 19961018 |
| | EP 801119 | A1 | 19971015 | EP 1996-935451 | 19961025 |

R: DE, FR, GB

US 5877235 A 19990302 US 1997-849729 19970630

PRAI JP 1995-282204 19951030

JP 1996-266860 19961008

WO 1996-JP3128 19961025

AB Title inks comprise a suspension of a dye- or pigment-adsorbed
 polymer at $\gamma \cdot \eta \cdot d = 0.1-11$ at 20.degree., (γ = surface
 tension in dyne/cm; η = viscosity in cP; d = mean particle diam.
 in μm). Thus, a 20% water-thinned suspension [prepd. from
 polyoxypropylene(2,2)-2,2-bis(4-hydroxyphenyl)propane-maleic
 acid-hydroquinone copolymer mixed with Oil Black 860 and MEK,
 carboxy-ionized by dimethylethanolamine, and dispersed by Demol N]

W: US

RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE

W: US

RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE

85, ethanolamine 2, diethylene glycol 10, glycerin 2.5, and Acetylenol EL 0.5g were mixed and filtered to obtain an ink-jet ink with γ -eta.d 1.4.

IC ICM C09D011-00
CC 42-12 (Coatings, Inks, and Related Products)
IT Polysiloxanes, uses
(KM 71, defoamer; water-thinned ink-jet inks contg. dye-absorbed polymer suspensions giving bloating-free prints with good water resistance and fixation)
IT Carbon black, uses
(dye; water-thinned ink-jet inks contg. dye-absorbed polymer suspensions giving bloating-free prints with good water resistance and fixation)
IT Polyamides, uses
Polyesters, uses
(water-thinned ink-jet inks contg. dye-absorbed polymer suspensions giving bloating-free prints with good water resistance and fixation)
IT Ink-jet inks
(water-thinned; ink-jet inks contg. dye-absorbed polymer suspensions giving bloating-free prints with good water resistance and fixation)
IT 51023-30-4, Demol N
(dispersant; water-thinned ink-jet inks contg. dye-absorbed polymer suspensions giving bloating-free prints with good water resistance and fixation)
IT 509-34-2, Oil Pink 312 4197-25-5, Orient Oil Black 860
6483-64-3, Oil Scarlet 308 6706-82-7, Orient Oil Yellow 129
12237-24-0, Valifast Blue 2606 104244-10-2, Neopen Yellow 075
(dye; water-thinned ink-jet inks contg. dye-absorbed polymer suspensions giving bloating-free prints with good water resistance and fixation)
IT 65421-52-5 190733-03-0 190733-05-2 190733-07-4
(water-thinned ink-jet inks contg. dye-absorbed polymer suspensions giving bloating-free prints with good water resistance and fixation)

L69 ANSWER 21 OF 23 HCA COPYRIGHT 2000 ACS
AN 126:231552 HCA
TI Ink-jet recording paper with ink-receiving layer containing cationic resin
IN Oomori, Masayoshi
PA Lintec Corp, Japan
SO Jpn. Kokai Tokkyo Koho, 4 pp.
IT CODEN: JKXXAF
DT Patent
LA Japanese

FAN.CNT 1
PATENT NO. KIND DATE APPLICATION NO. DATE
JP 09011611 A2 19970114 JP 1995-188691 19950630
AB The recording paper comprises a low-dust or dust-free paper support

contg. dye-absorbed polymer suspensions giving bloating-free prints with good water resistance and fixation
IT 65421-52-5 190733-03-0 190733-05-2 190733-07-4
(water-thinned ink-jet inks contg. dye-absorbed polymer suspensions giving bloating-free prints with good water resistance and fixation)

and an ink-receiving layer made of a cationic resin having tertiary amine salts or quaternary ammonium salts. The recording paper for a clean room shows good ink-drying property and prevents blurring of ink.

IC ICM B41M005-00

ICS D21H021-14; D21H019-16

CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST **ink jet** recording receptor layer; cationic

~~polymer ink jet receptor; tertiary amine polymer~~

printing paper; quaternary ammonium polymer printing paper

IT Printing paper

(**ink-jet**, Clean Paper; waterproof low-dust

ink-jet recording paper with receiving layer

contg. cationic resin having tertiary amine salts or quaternary ammonium salts)

IT **Ink-jet** printing

(paper, Clean Paper; waterproof low-dust **ink-**

jet recording paper with receiving layer contg. cationic resin having tertiary amine salts or quaternary ammonium salts)

IT Quaternary ammonium compounds, uses

(polymers; waterproof low-dust **ink-jet**

recording paper with receiving layer contg. cationic resin having tertiary amine salts or quaternary ammonium salts)

IT Cationic polyelectrolytes

(waterproof low-dust **ink-jet** recording paper

with receiving layer contg. cationic resin having tertiary amine salts or quaternary ammonium salts)

IT 9002-98-6

(Epomin P 1000; waterproof low-dust **ink-jet**

recording paper with receiving layer contg. cationic resin having tertiary amine salts or quaternary ammonium salts)

IT 177606-25-6, PAA-D 11-HCl 188012-87-5, EL Polymer MO 1

(waterproof low-dust **ink-jet** recording paper

with receiving layer contg. cationic resin having tertiary amine salts or quaternary ammonium salts)

L69 ANSWER 22 OF 23 HCA COPYRIGHT 2000 ACS

AN 115:55241 HCA

TI Development of multilayer ceramic components using green-sheet technology

AU Utsumi, Kazuaki

CS Mater. Dev. Cent., NEC Corp., Kawasaki, 213, Japan

SO Am. Ceram. Soc. Bull. (1991), 70(6), 1050-5

CODEN: ACSBA7; ISSN: 0002-7812

DT Journal of tertiary amine salts or quaternary ammonium salts

LA English

AB An advanced green-sheet technol. is presented that includes thinner green-sheet technol. and designed-space forming technol. This green-sheet technol. was been applied to dielec., insulator, semiconductive, and piezoelec. ceramics. New high-performance multilayer ceramic components were developed, which include

IT 7006-25-6, PAA-D 11-HCl 188012-87-5, EL Polymer MO 1

(waterproof low-dust **ink-jet** recording paper

with receiving layer contg. cationic resin having tertiary amine salts or quaternary ammonium salts)

small-sized, large-capacitance ceramic capacitors, multilayer ceramic chip varistors, multilayer ceramic substrates, multilayer ceramic actuators, a ceramic **lectroluminesc nt** device, monolithic multicomponent ceramic substrates, a piezoelec. ceramic filter, and a ceramic **ink-jet** head.

CC 57-2 (Ceramics)
Section cross-reference(s): 76

L69 ANSWER 23 OF 23 HCA COPYRIGHT 2000 ACS

AN 111:181237 HCA

TI Apparatus for measuring physical property of liquid

IN Katano, Yasuo; Horiguchi, Hiroyuki; Ebi, Yutaka; Furuta, Toshiyuki

PA Ricoh Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 5 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|--|------------|------|------|-----------------|------|
|--|------------|------|------|-----------------|------|

| | | | | | |
|----|-------------|----|----------|---------------|----------|
| PI | JP 63265142 | A2 | 19881101 | JP 1987-88317 | 19870410 |
|----|-------------|----|----------|---------------|----------|

| | | | | | |
|------|----------------|--|----------|--|--|
| PRAI | JP 1986-289911 | | 19861204 | | |
|------|----------------|--|----------|--|--|

AB In the title app. in which at least parts of a **light-emitting device** (i.e. LED) and photoconductor are combined with a light-transmitting medium contacted with a sample liq.; a protective layer (e.g., siloxane polymer) satisfies $n_1 < n_2$, n_3 (n_1 = sample refractive index; n_2 = refractive index of protective layer; n_3 = refractive index of light-transmitting medium). The app. uses an evanescent wave. The app. is useful for detecting the concn. of ink in an **ink-jet** printer.

IC ICM G01N021-27

CC 65-6 (General Physical Chemistry)

Section cross-reference(s): 73, 74, 79

IT **Electroluminescent** devices

SO (app. for liq. phys. property measurement using evanescent wave and)

DT 1 1986

LA Japanese
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IC ICM G01N021-27

CC 65-6 (General Physical Chemistry)

Section cross-reference(s): 73, 74, 79

IT **Electroluminescent** devices

SO (app. for liq. phys. property measurement using evanescent wave and)

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=> d 167, 1-73, ti

L67 ANSWER 1 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
TI Scanning **ink jet** printer for electronic camera.

L67 ANSWER 2 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
TI Gallium nitride group compound pattern formation for blue
light emitting diode, semiconductor
laser and waveguide - involves performing nitride process of liquid
gallium, under gaseous atmosphere containing active nitrogen
compound.

L67 ANSWER 3 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
TI Security printing ink useful for printing, e.g. prepaid post,
credentials, bank notes and tickets.

L67 ANSWER 4 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
TI Cyclic azine dyes, their manufacturing method and an organic
electro luminescent devices containing the dye, -
are useful in photography, printing, filters and for medical
purposes.

L67 ANSWER 5 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
TI Blockade detector in **inkjet** printer - detects existence
and position of object blocked in nozzle in order to indicate
operator.

L67 ANSWER 6 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
TI Printer with print head gap setting device.

L67 ANSWER 7 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
TI Toner density sensor for wet type image forming apparatus, and
ink jet head, developing unit and image forming
apparatus in which the sensor is used.

L67 ANSWER 8 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
TI Substrate of recording heads for printer, copier, facsimile - has
energy generating **lem nts**, **light**
emitting and receiving **elements** for image
formation on recording head.

L67 ANSWER 9 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD

TI **Inkjet printer** - has flicker light sources emitting specific wavelength of light to substrate film for changing its polarity to that of ink.

L67 ANSWER 10 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
TI **Ink jet printer head controller.**

L67 ANSWER 11 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
TI Electric connection structure for video printer - has connecting terminal which is detachably attached to case for connecting **light emitting element** and external control circuit.

L67 ANSWER 12 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
TI Electrical light signal converter for video printer - has optical shutter covered by protection member externally and attached to case, which performs transparency cut-off of radiated parallel light according to electrical signal.

L67 ANSWER 13 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
TI **Light emitting and receiving element** arrangement in **inkjet printer** - has light receiving elements which output predetermined current value based on strength of **light received from light emitting elements.**

L67 ANSWER 14 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
TI Reactive load driving system.

L67 ANSWER 15 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
TI Image synthesizing method in electrophotographic color copier, laser printer, **inkjet printer** - involves setting shape of aperture of light receiving element such that detection waveforms of transverse line and diagonal line of resist pattern are nearly identical.

L67 ANSWER 16 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
TI Ink detector in **inkjet recorder** - includes **light receiving-emitting semiconductor device** which detects amount of ink held by ink container.

L67 ANSWER 17 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
TI Full-color passive-matrix **electroluminescent device** manufacture.

L67 ANSWER 18 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
TI **Electroluminescent element** that uses **ink-jet method** to lower production costs.

L67 ANSWER 19 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
TI Composition for a hole injection/transport layer - containing electrically conducting compound and solvent, and having specified

TI ... of light receiving element such that detection waveforms of transverse line and diagonal line of resist pattern are nearly identical.

- contact angle.
- L67 ANSWER 20 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
TI **Light emitting diode** formation method for **light emitting diode display** - involves forming fluorescent material on LED chip through buffer layer by **inkjet** printing technique.
- L67 ANSWER 21 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
TI Active matrix display that suppresses parasitic capacitance on the data line.
- L67 ANSWER 22 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
TI Multihead printer e.g. **inkjet** printer, laser printer, ~~light emitting diode (LED) printer,~~ thermal printer for high-speed printing of image - has recording heads which are arranged side by side on row at equal intervals.
- L67 ANSWER 23 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
TI **Inkjet** printer with facsimile function - has reliability judgment unit for judging reliability of result of printing defect judgment unit based on which printing is stopped.
- L67 ANSWER 24 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
TI **Inkjet** printer with facsimile function - has judgment units for judging defects in printing when received light and predetermined threshold value are not equal.
- L67 ANSWER 25 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
TI **Light emitting diode** illuminating for adjusting printing mechanism for printing optimal images - enduring secondary illuminate response after selected duration, until illumination of **light emitting diode** reaches selected illumination value.
- L67 ANSWER 26 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
TI Laser machining apparatus e.g for **inkjet** recording head - has bend mirror which reflects light from homogeniser and guides it onto mask is not provided between homogeniser and mask.
- L67 ANSWER 27 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
TI Structured black-pigmented high molecular weight organic material - is obtainable by irradiating a radiation-sensitive precursor comprising at least one dissolved pigment derivative..
- L67 ANSWER 28 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
TI **Inkjet** recording apparatus - has optical sensor **light** receiver and **emitter** that scan row direction of nozzle row, such that each optical sensor light receiver and emitter is set to predetermined inclination.
- L67 ANSWER 29 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD

TI Ink remaining amount detector mounted on carriage of **ink-jet** recording apparatus - uses decision circuit for judging ink remaining amount variation according to difference of light beam received by every phototransistors arranged facing transparent rear side of cartridge case.

L67 ANSWER 30 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD

TI Halo alkylation of polymers used in making **ink-jet** print heads - by reaction with an acetyl halide in di methoxy-methane with a halogenated Lewis acid catalyst to form a photo-crosslinkable polymer.

L67 ANSWER 31 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD

TI **Ink jet** printer with remnant ink detection facility - has light receiving element that detects variation in quantity of light emitted, based on which excess amount of ink is detected.

L67 ANSWER 32 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD

TI Abnormality detector circuit of electric power supply circuit for recording head of **inkjet** recording system - detects abnormality of electric power supply circuit by observing end voltage variation in end voltage of capacitor connected between common connection terminals and ground.

L67 ANSWER 33 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD

TI Manual scanning type printer - has dial used for adjusting printing position and printing direction shown on indicator.

L67 ANSWER 34 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD

TI **Ink-jet** printer - provides LED and photo transistor outside ink tank, such that light from LED and then reflected by ink tank is received by photo transistor to determine existence of ink.

L67 ANSWER 35 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD

TI Paper feed detector for **ink jet** colour plotter - has judgement unit which judges presence of recording medium based on movement of round-tooth cutter.

L67 ANSWER 36 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD

TI **Ink-jet** printer - has light-emitting diode whose light is turned OFF based on the detected output voltage of capacitor that smooths drive current supplied to **ink-jet** head drive circuit.

L67 ANSWER 37 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD

TI **Ink jet** printer with print head position indicator - includes print-head mounted on guide rail with motor controlling it's movement with light emitting indicator illuminating next print positions.

L67 ANSWER 38 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD

TI **Ink jet** printer with print head position indicator - includes print-head mounted on guide rail with motor controlling it's movement with light emitting indicator illuminating next print positions.

L67 ANSWER 38 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
 TI Ink set for recording colour images - contains at least two types of ink having liq. to dissolve to colouring material according to recording signals..

L67 ANSWER 39 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
 TI Franking apparatus for mail items - displays franking impression based upon calculated postal charge and photocopies display for printing onto mail item.

L67 ANSWER 40 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
 TI Head driving mechanism for ink jet printer using FET MOS transistors - ejects ink from each ink chamber due to variation in pressure caused by charging and discharging of capacitances as transistors are selectively turned on and off, transistors are formed on one substrate with set potential.

L67 ANSWER 41 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
 TI Ink-jet recording apparatus for e.g. ink -jet printer - has decision unit which judges amount of ink discharged by ink-jet recording head based on output signal of amplifier which amplifies variation of detection signal from ink detector.

L67 ANSWER 42 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
 TI Ink jet recording ink - contg. colourant and as its solvent, water, can stably contain visible water soluble dye in addn. to nigrosine dyes..

L67 ANSWER 43 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
 TI Ink-jet printing head - has light diodes to form non-coherent light bursts in each capillary, with light beams being focussed onto carrier to dia. less than that of capillaries.

L67 ANSWER 44 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
 TI Optical appts for digital copier, inkjet printer - has surface state sensor and optical position detector to detect surface state sensor and optical position detector to detect surface state and displacement position of target object.

L67 ANSWER 45 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
 TI Ink jet recording device for printer - has controller which sets up or changes amount of current supplied to light-emitting diode based on mean value of output level sampled in predetermined sampling parts by transistor.

L67 ANSWER 46 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
 TI Ink-jet recording device with ink remnant detection - has controller which oscillates signal to light emitting diode based on remnant signal generated by amount discharge detector.

L67 ANSWER 47 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
 TI Ink-jet recording device with ink remnant detection - has controller which oscillates signal to light emitting diode based on remnant signal generated by amount discharge detector.

L67 ANSWER 48 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD

- L67 ANSWER 47 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
TI **Ink jet** printer with **ink** in tank
presence monitoring - detects existence of ink tank from difference
in quality of light that reaches light receiving element.
- L67 ANSWER 48 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
TI Chromophore cpds. contg. cyan-imino gps. - used as polymer-soluble
dyes for e.g. polystyrene, polyamide(s), etc., with high solid state
fluorescence.
- L67 ANSWER 49 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
TI Keto-cyan-imino- and di cyan-imino-pyrrolo-pyrrole(s) useful as
pigment or dye for high mol organic materials - are prepd from di
keto cpds by replacing keto gp(s) by cyan-imino gp(s), causing
bathochromic shift and strong solid state fluorescence..
- L67 ANSWER 50 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
TI Flat cable e.g FPC, FFC, for use in electric circuit appts. e.g
liquid crystal display - has layer of conductor lines and conductor
layer on opposite sides of insulating layer which provides
connection part.
- L67 ANSWER 51 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
TI Illuminated image reading unit for information processor - uses two
light emitting elements of different
wavelength ranges through light conductor to prevent irregularity of
illumination on original without provision of compensation improving
colour discrimination.
- L67 ANSWER 52 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
TI **Ink jet** head - performs recording by discharging
ink through port, ink channel communicates with discharge port and
with discharge energy generating element to discharge ink, with
optical element at channel.
- L67 ANSWER 53 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
TI Soluble chromophore carbamate cpds. useful as fluorescent dyestuff
or pigment precursor in high mol. organic material - are prepd. by
reacting carboxyl cpd. with nitrogen atom of pigment and opt.
converted to pigment crystal modification by chemical or thermal
treatment..
- L67 ANSWER 54 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
TI Pyrrolo(3,4-c)pyrrole carbamate cpds. useful as fluorescent dyestuff
- prepd. by reacting carboxyl cpd. with nitrogen atom of pigment and
opt. converted to pigment crystal modification by chemical or
thermal treatment..
- L67 ANSWER 55 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
TI Snap-on control panel for portable **ink-jet**
printer - with multiple light pipes in single polymeric member fixed

to interior surface of printer panel, each aligned with LED..

L67 ANSWER 56 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
TI Colouration of substrate esp dyeing textile printing metals, plastics, porous materials - by heating and/or basifying to combine mols to less soluble dyestuff, pref polymer or oligomer.

L67 ANSWER 57 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
TI Colour printing sequence for e.g. thermal ink-jet printer, copying machine, facsimile - has single head with yellow, magenta, cyan and black ink jets and prints black which is adjacent to colour in separate scan from colour.

L67 ANSWER 58 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
TI Ink amount detecting device esp for ink jet printers - uses light receiving device which receives reflected light incident on ink storing mechanism to detect amount of ink remaining in ink container..

L67 ANSWER 59 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
TI Printer job classification e.g. for document scanner - queuing number of jobs in mass storage buffer, and selecting jobs which do not require operator intervention for printing.

L67 ANSWER 60 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
TI Liquid refractive index measuring appts. - has LED coupled to photodiode via optical fibre partly immersed in liquid under measurement.

L67 ANSWER 61 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
TI Electro-optical light scanning system - using modulated laser illuminating source directed on multifaceted rotating mirror or polygon.

L67 ANSWER 62 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
TI MOSFET drive circuit e.g. for vacuum discharge tube - includes OR gate with output connected to gate of P-channel device and AND gate similarly connected to N-channel MOSFET.

L67 ANSWER 63 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
TI Drop sensor for ink jet printer - has several amplifier circuits comparing outputs of adjacent light receiving elements to determine coincidence with drops.

L67 ANSWER 64 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
TI Measurement of ink in reservoir ink jet printer
- has optical monitoring of quantity of fluid in flexible bag reservoir.

L67 ANSWER 65 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
TI Dot matrix printer quality checking device - prints test character in margin that is read by optical sensing method to determine

TI

L67 ANSWER 66 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
TI

quality.

L67 ANSWER 66 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD

TI **Ink jet** printer clogging detector - has
~~photodetector disposed beyond end of print platen to determine if~~
jet is clogged.

L67 ANSWER 67 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD

TI Electronic **ink-jet** printer - has nozzle assembly
moved by linear motor with variable print density control.

L67 ANSWER 68 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD

TI **Ink jet** droplet sensing system - has several
sensing sites each having two light sources for directing light
through sensing zone and optical fibre.

L67 ANSWER 69 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD

TI Arrangement monitoring print quality achieved by dot matrix printer
- uses optical sensor for each printing element of print head to
check dot printed.

L67 ANSWER 70 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD

TI **Ink jet** printer - has linear motor carriage
drive with optical encoder to monitor carriage position.

L67 ANSWER 71 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD

TI **Ink jet** line printer - has linear motor drive
for carriage and optical track sensing for speed and position
control.

L67 ANSWER 72 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD

TI Line printer with linear motor drive - has slotted strip scanned
opto-electrically to provide carriage position control.

L67 ANSWER 73 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD

TI Formation of epitaxial tunnels in mono crystalline structure - by
oriented growth on crystal substrate, and pref. inserting pn
junction.

=> d 167 17,18,20 iall

L67 ANSWER 17 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD

ACCESSION NUMBER: 1999-205331 [17] WPIDS

DOC. NO: NON-CPI: N1999-151221

TITLE: Full-color passive-matrix

electroluminescent device manufacture.

DERWENT CLASS: U14 X26

INVENTOR(S): KIGUCHI, H; KOBAYASHI, H; SHIMODA, T.

PATENT ASSIGNEE(S): (SHIH) SEIKO EPSON CORP

COUNTRY COUNT: 22

PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG | MAIN | IPC |
|-----------------------------------------------------------|------|----------|-----------|----|----|------------|-----|
| WO 9912397 | A1 | 19990311 | (199917)* | JA | 25 | H05B033-22 | |
| RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE | | | | | | | |
| W: CN KR US | | | | | | | |
| JP 11087063 | A | 19990330 | (199923) | | 7 | H05B033-22 | |
| EP 969701 | A1 | 20000105 | (200006) | EN | | H05B033-22 | |
| R: DE FR GB NL | | | | | | | |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|-------------|------|----------------|----------|
| WO 9912397 | A1 | WO 1998-JP3676 | 19980819 |
| JP 11087063 | A | JP 1997-236328 | 19970901 |
| EP 969701 | A1 | EP 1998-938898 | 19980819 |
| | | WO 1998-JP3676 | 19980819 |

FILING DETAILS:

| PATENT NO | KIND | PATENT NO |
|-----------|------|-----------|
|-----------|------|-----------|

| | | |
|-----------|-------------|------------|
| EP 969701 | A1 Based on | WO 9912397 |
|-----------|-------------|------------|

PRIORITY APPLN: INFO: JP 1997-236328 19970901

INT. PATENT CLASSIF: H05B033-22

MAIN: US H05B033-22

SECONDARY: A H05B033-10

BASIC ABSTRACT:

WO 9912397 A UPAB: 19990503

NOVELTY - A bank (4) required for making an organic film with an ink jet head is formed perpendicularly to an anode (6) and is used to pattern a cathode (1).

USE - Electroluminescent device.

ADVANTAGE - The device produces vivid colors and is manufactured by a simple, low-cost process in which patterning is performed without increasing the number of processing steps.

DESCRIPTION OF DRAWING(S) - The drawing shows the electroluminescent device.

Cathode 1

Luminescent layer 2

Passivation layer 3

Bank 4

Hole injection transport layer 5

Anode 6

Transport layer 7

Dwg. 4/11

FILE SEGMENT: EPI

FIELD AVAILABILITY: AB; GI

MANUAL CODES: EPI: U14-J01; U14-J02A; X26-J

L67 ANSWER 18 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
 ACCESSION NUMBER: 1999-205330 [17] WPIDS
 DOC. NO. NON-CPI: N1999-151220
 TITLE: **Electroluminescent** element that uses
ink-jet method to lower
 production costs.
 DERWENT CLASS: U14 X26
 INVENTOR(S): KIGUCHI, H; KOBAYASHI, H
 PATENT ASSIGNEE(S): (SHIH) SEIKO EPSON CORP
 COUNTRY COUNT: 20
 PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG | MAIN | IPC |
|-----------------------------------------------------------|------|----------|-----------|----|----|------------|-----|
| WO 9912396 | A1 | 19990311 | (199917)* | JA | 37 | H05B033-14 | |
| RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE | | | | | | | |
| W: US | | | | | | | |
| JP 11074083 | A | 19990316 | (199921) | | 11 | H05B033-22 | |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|-------------|------|----------------|----------|
| WO 9912396 | A1 | WO 1998-JP3675 | 19980819 |
| JP 11074083 | A | JP 1997-236326 | 19970901 |

PRIORITY APPLN. INFO: JP 1997-236326 19970901

INT. PATENT CLASSIF.:

MAIN: H05B033-14; H05B033-22

SECONDARY: H05B033-10; H05B033-12

BASIC ABSTRACT:

WO 9912396 A UPAB: 19991122

NOVELTY - In a bright color **electroluminescent** element, a light emitting layer is doped with a fluorescent conversion substance with a concentration gradient. The element is produced by an **ink jet** method.

USE - **Electroluminescent** element.

ADVANTAGE - The **ink jet** method makes it very easy to pattern an organic layer, and allows lower cost production.

DESCRIPTION OF DRAWING(S) - cathode 1

light emitting layer 2

gradient concentration layer 3

hole injection/transport and fluorescent conversion layer 5

anode 6

Dwg. 1/9

FILE SEGMENT: EPI

FIELD AVAILABILITY: AB; GI

MANUAL CODES: EPI: U14-J01; U14-J02; X26-J

L67 ANSWER 20 OF 73 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD

ACCESSION NUMBER: 1999-201270 [17] WPIDS

DOC. NO. NON-CPI: N1999-149097

TITLE: **Light emitting diode**
formation method for light
emitting diode displayinvolves forming fluorescent material on LED chip
through buffer layer by inkjet printing
technique.

DERWENT CLASS: P85 U12 W05

PATENT ASSIGNEE(S): (NICH-N) NICHIA KAGAKU KOGYO KK.

COUNTRY COUNT: 1

PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG | MAIN | IPC |
|-------------|------|----------|-----------|----|----|------------|-----|
| JP 11046019 | A | 19990216 | (199917)* | | 8 | H01L033-00 | |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|-------------|------|----------------|----------|
| JP 11046019 | A | JP 1997-201311 | 19970728 |

PRIORITY APPLN. INFO: JP 1997-201311 19970728

INT. PATENT CLASSIF.:

MAIN: H01L033-00

SECONDARY: G09F009-33

BASIC ABSTRACT:

JP 11046019 A UPAB: 19990503

NOVELTY - The fluorescent material (301) is arranged on LED chip by the inkjet printing technique via a buffer layer (102) formed on LED chip. The fluorescent material absorbs light emission from the LED chip and performs wavelength conversion.

USE - For light emitting diode display, backlight source, signal apparatus, light emitting type switch, various sensors, various indicators.

ADVANTAGE - Gap of chromaticity is reduced and improves yield with sufficient mass production property. DESCRIPTION OF DRAWING(S)

- The drawing depicts the explanatory diagram of printing principle of light emitting diode by

inkjet printer head. (102) Buffer layer; (301) Fluorescent material.

Dwg.3/3

FILE SEGMENT: EPI GMPI

FIELD AVAILABILITY: AB; GI

MANUAL CODES: EPI: U12-A01A2; U12-A01A3; W05-E01B; W05-E05B

TAGS: B11033-00

ACCESSION: 1999-201270

BASIC INFORMATION:

JP 11046019 A UPAB: 19990503

NOVELTY - The fluorescent material (301) is arranged on LED chip by the inkjet printing technique via a buffer layer (102) formed on LED chip. The fluorescent material absorbs light emission from the LED chip and performs wavelength conversion.

USE - For light emitting diode display, backlight source, signal apparatus, light emitting type switch, various sensors, various indicators.

ADVANTAGE - Gap of chromaticity is reduced and improves yield with sufficient mass production property. DESCRIPTION OF DRAWING(S)

=> file japio

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>>> DATA ELEMENTS TO BE REMOVED - SEE NEWS <<<

=> d 165 1-21 1all

L65 ANSWER 1 OF 21 JAPIO COPYRIGHT 2000 JPO
 ACCESSION NUMBER: 1999-136451 JAPIO
 TITLE: ILLUMINATION DEVICE AND INFORMATION PROCESSOR
 USING THE SAME
 INVENTOR: URAKAWA SHINICHI; TABATA MASAMI; KAWAI TATSUTO
 PATENT ASSIGNEE(S): CANON INC, JP (CO 000100)
 PATENT INFORMATION:

| PATENT NO | KIND | DATE | ERA | MAIN IPC |
|-------------|------|----------|--------|----------------|
| JP 11136451 | A | 19990521 | Heisei | (6) H04N001-04 |

APPLICATION INFORMATION

ST19N FORMAT: JP1997-300301 19971031
 ORIGINAL: JP09300301 Heisei
 SOURCE: PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined
 Applications, Vol. 99, No. 5

INT. PATENT CLASSIF.:

MAIN: (6) H04N001-04
 SECONDARY: (6) F21V008-00; (6) G06T001-00
 ADDITIONAL: (6) H05B033-14

ABSTRACT:

PURPOSE: TO BE SOLVED: To lower the cost relating to green and blue light emitting elements by using an LED for a red light emitting element and using organic EL elements for the green and blue light emitting elements as a light source.
 CONSTITUTION: diation is performed from a light emitting source 1 for constituting an optical unit provided with a red LED 2 and green and blue EL elements 3 and 4, and an original 9 is linearly irradiated with light guided and reflected by a light transmission body 5. Images are formed on a light receiving element 7 formed on a substrate 8 and converted into image signals. By using the organic EL elements for which an organic molecular layer is a light emitting layer as EL light emitting sources, DC low voltage drive is made possible and drive is

INT. PATENT CLASSIF.:

MAIN: (6) H04N001-04
 SECONDARY: (6) F21V008-00; (6) G06T001-00
 ADDITIONAL: (6) H05B033-14

facilitated. Also, by covering the light emitting source with the substrate provided with an electrode for supplying a voltage from the outside, high reliability is obtained.

L65 ANSWER 2 OF 21 JAPIO COPYRIGHT 2000 JPO

ACCESSION NUMBER: 1999-098318 JAPIO
 TITLE: PICTURE READING DEVICE
 INVENTOR: NAKAMURA FUMIHIKO; AOKI NORIYUKI; NISHINOHARA TAKAYUKI; SAITO ATSUSHI
 PATENT ASSIGNEE(S): CANON INC, JP (CO 000100)
 PATENT INFORMATION:

| PATENT NO | KIND | DATE | ERA | MAIN IPC |
|-------------|------|----------|--------|----------------|
| JP 11098318 | A | 19990409 | Heisei | (6) H04N001-04 |

JP

APPLICATION INFORMATION

ST19N FORMAT: JP1997-273520 19970919
 ORIGINAL: JP09273520 Heisei
 SOURCE: PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 99, No. 4

INT. PATENT CLASSIF.:

MAIN: (6) H04N001-04

SECONDARY: (6) G01J003-46

ABSTRACT:

PURPOSE: TO BE SOLVED: To provide a picture reading device with excellent quality in which stable color reference can be obtained, and normal picture reading can be attained for a long period.
 CONSTITUTION: ference plate 16a as a guide member is composed of a plate metal so that a reading plane part 161 can be ensured, and adhered to the reading face of a contact sensor 15. A white Mylar (R) 16b being a color reference sheet is adhered along the reference plate 16a with a both face tape 16d, and a white ink application 16c constituting a transparency preventing means is operated to the back face side of the original passing paper face of the white Mylar (R) 16b.

L65 ANSWER 3 OF 21 JAPIO COPYRIGHT 2000 JPO

ACCESSION NUMBER: 1999-065044 JAPIO
 TITLE: SILVER HALIDE PHOTOGRAPHIC SENSITIVE MATERIAL AND ITS PROCESSING METHOD AND PICTURE IMAGE FORMING METHOD
 INVENTOR: TANAKA MARI; KOMAMURA TAWARA
 PATENT ASSIGNEE(S): KONICA CORP, JP (CO 000127)
 PATENT INFORMATION:

| PATENT NO | KIND | DATE | ERA | MAIN IPC |
|-------------|------|----------|--------|----------------|
| JP 11065044 | A | 19990305 | Heisei | (6) G03C007-20 |

JP

APPLICATION INFORMATION

ST19N FORMAT: JP1997-230382 19970812
 ORIGINAL: JP09230382 Heisei
 SOURCE: PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 99, No. 3
 INT. PATENT CLASSIF.:
 MAIN: (6) G03C007-20
 SECONDARY: (6) G03C001-42; (6) G03C001-795; (6) G03C007-392; (6) G03C007-407; (6) G03C007-42; (6) H04N001-00

ABSTRACT:

PURPOSE: TO BE SOLVED: To make it possible to provide eco-friendly and high-grade picture information conveniently and rapidly, by making optical density by transmitting light a specific value.
 CONSTITUTION: cal density by transmitting light is 1.0 or less. As for the optical density, 1.0 or less being preferable from the viewpoint of easy use of picture information, 0.8 or less being more preferable, 0.7 or less being preferable in particular, and 0.6 or less is the most preferable. There is no special limit on types of silver halide color photographic sensitive material, and a color negative film, a color reversal film, or a direct positive photosensitive material can be used. Preferably, the silver halide color photographic sensitive material has a red sensitive silver halide emulsion layer, a green-sensitive silver halide emulsion layer, and a blue-sensitive silver halide emulsion layer, which are capable of recording red, green, and blue light, respectively. As for sensitivity of the silver halide color photographic sensitive material, ISO 30 or more is preferable, ISO 100 or more is much preferable, and ISO 400 or more is more preferable.

L65 ANSWER 4 OF 21 JAPIO COPYRIGHT 2000 JPO

ACCESSION NUMBER: 1999-054266 JAPIO
 TITLE: LUMINESCENT DISPLAY
 INVENTOR: KANBE, SADA O
 PATENT ASSIGNEE(S): SEIKO EPSON CORP, JP (CO 000236)
 PATENT INFORMATION:

| PATENT NO | KIND | DATE | ERA | MAIN IPC |
|-------------|------|----------|--------|----------------|
| JP 11054266 | A | 19990226 | Heisei | (6) H05B033-04 |

APPLICATION INFORMATION

ST19N FORMAT: JP1997-206849 19970731
 ORIGINAL: JP09206849 Heisei
 SOURCE: PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 99, No. 2
 INT. PATENT CLASSIF.:
 MAIN: (6) H05B033-04
 ABSTRACT:
 PURPOSE: TO BE SOLVED: To lengthen the service life of a display

using an organic EL material by coating an electrode and luminescent material on an electrode side opposite with material with the function of absorbing oxygen and moisture. CONSTITUTION: lm of organic EL material or the like is formed on a glass board 11 with an ITO transparent electrode 12 by a spin-coating method or the like. Aluminum metal is further vapor-deposited to form an aluminium electrode 14. Immediately after taking it out of a vapor depositing apparatus, polysilazane is applied to the aluminium electrode 14 side and dried by burning at a moderate temperature, so as to partially leave an unreacted part. Oxygen and moisture in the air therefore react in the film, so as to prevent oxygen and moisture from entering a light-emitting part. The deterioration of the organic EL material 13 is therefore prevented to prolong the service life of a luminescent display. The service life of the luminescent display can be thus prolonged effectively in this way with a simple method. A dipping process and a printing method are also considered as a polysilazane applying method.

L65 ANSWER 5 OF 21 JAPIO COPYRIGHT 2000 JPO

ACCESSION NUMBER: 1999-043254 JAPIO
 TITLE: PAPER SHEET RECEIVER FOR PAPER SHEET DRIVING
 TYPE AUTOMATIC DRAFTING MACHINE
 INVENTOR: KIYOZAWA TORU
 PATENT ASSIGNEE(S): MUTOH IND LTD, JP (CO 328148)
 PATENT INFORMATION:

| PATENT NO | KIND | DATE | ERA | MAIN IPC |
|-------------|------|----------|--------|----------------|
| JP 11043254 | A | 19990216 | Heisei | (6) B65H031-02 |

JP
 APPLICATION INFORMATION
 ST19N FORMAT: JP1997-212600 19970723
 ORIGINAL: JP09212600 Heisei
 SOURCE: PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 99, No. 2
 INT. PATENT CLASSIF.:
 MAIN: (6) B65H031-02
 SECONDARY: (6) B41J015-04; (6) B43L001-04; (6) B43L013-00
 ABSTRACT:

PURPOSE: TO BE SOLVED: To prevent a paper sheet from being stained by contacting with a floor surface even if a long size paper sheet is largely hung down in the longitudinal direction of a plotting part main body at initial operation time as well as to reduce the whole exclusively occupied space.
 CONSTITUTION: per sheet driving type automatic drafting machine drives a long size recording medium 14a in the longitudinal direction on a platen 16, on the one hand, records an image on the basis of recording data on the recording medium 14a on the platen 16 by operating a recording mechanism. Paper sheet housing parts 48 and 54 where a sheet-like member is arranged in a U shape, are

arranged in front and rear respective under parts of the platen 16, and at initial operation time of the automatic drafting machine, the long size recording medium 14a is largely driven in the longitudinal direction, and even if both ends of the recording medium 14a are largely hung down in the floor surface direction, an end part of the long size recording medium 14a is housed in the paper sheet housing parts 48 and 54, and does not contact with a floor surface. The paper sheet housing parts 48 and 54 are constituted so as to be freely openable/closable.

L65 ANSWER 6 OF 21 JAPIO COPYRIGHT 2000 JPO
 ACCESSION NUMBER: 1998-255975 JAPIO
 TITLE: LUMINESCENT DISPLAY
 INVENTOR: KANBE SADAO
 PATENT ASSIGNEE(S): SEIKO EPSON CORP, JP (CO 000236)
 PATENT INFORMATION:

| PATENT NO | KIND | DATE | ERA | MAIN IPC |
|-------------|------|----------|------------|------------|
| JP 10255975 | A | 19980925 | Heisei (6) | H05B033-14 |

JP

APPLICATION INFORMATION

ST19N FORMAT: JP1997-53435 19970307
 ORIGINAL: JP09053435 Heisei
 SOURCE: PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 98, No. 9

INT. PATENT CLASSIF.:

MAIN: (6) H05B033-14
 SECONDARY: (6) G09F009-30; (6) H05B033-26

ABSTRACT:

PURPOSE: TO BE SOLVED: To provide a long-life luminescent display using an organic EL material by smoothening the form of the light emitting part of the luminescent display.

CONSTITUTION: luminescent display consisting of a luminescent material and an electrode material for nipping the luminescent material, it is formed of a plurality of round light emitting parts.

In the formation of the round light emitting part, the form of the electrode is made by lithography, or a rectangular electrode is covered with an insulator, whereby the electrode is rounded. As the insulating material, a resist material is usable. In a matrix drive luminescent display, for example, an insulating film 29 is obtained by applying a resist material to the whole surface of a base 27 on which a TFT element 28 having a rectangularly formed ITO electrode 25 is put, circularly removing the resist material on the ITO electrode 25 by lithography. A precursor solution of organic EL material is charged onto the ITO electrode 25 the circumference of which is covered with the resist material, followed by baking, whereby an organic EL film is formed.

L65 ANSWER 7 OF 21 JAPIO COPYRIGHT 2000 JPO
 ACCESSION NUMBER: 1998-244747 JAPIO

TITLE: INFRARED ABSORPTION PRINTED MATTER
 INVENTOR: NAKASONE SATOSHI; KINOSHITA SATOSHI
 PATENT ASSIGNEE(S): DAINIPPON PRINTING CO LTD, JP (CO 000289)
 PATENT INFORMATION:

| PATENT NO | KIND | DATE | ERA | MAIN IPC |
|-------------|------|----------|--------|----------------|
| JP 10244747 | A | 19980914 | Heisei | (6) B41M003-14 |

JP

APPLICATION INFORMATION

ST19N FORMAT: JP1997-49407 19970304
 ORIGINAL: JP09049407 Heisei
 SOURCE: PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined
 Applications, Vol. 98, No. 9

INT. PATENT CLASSIF.:

MAIN: (6) B41M003-14
 SECONDARY: (6) B42D015-10

ABSTRACT:

PURPOSE: TO BE SOLVED: To provide an infrared absorption printed matter which reduces a manufacturing cost, has no limit to the color of a visible image to be formed, is excellent in concealability of a formed image pattern due to infrared absorption, and obviates the formation of a white color printed layer for

concealment.

CONSTITUTION: infrared absorption printed matter has a base material 10, an infrared absorption layer consisting of at least one layer formed on one face side of the base material, and a camouflage pattern layer 31 visually recognizable by visible light, which is formed on one face side of, or on the other face side of, the infrared absorption layer. The infrared absorption layer has a first region A (21) having first infrared absorbing characteristics and a second region B (22) formed in a position different from the first region and having second infrared absorbing characteristics different from the first infrared absorbing characteristics, or infrared transmitting characteristics, and the first and second regions are constituted to have a color tone whose visual recognition is difficult under visible light.

L65 ANSWER 8 OF 21 JAPIO COPYRIGHT 2000 JPO

ACCESSION NUMBER: 1998-233889 JAPIO
 TITLE: SCANNER DEVICE AND ITS CONTROL METHOD
 INVENTOR: KODAIRA TAKAKI
 PATENT ASSIGNEE(S): CANON INC, JP (CO 000100)

PATENT INFORMATION:

| PATENT NO | KIND | DATE | ERA | MAIN IPC |
|-------------|------|----------|--------|----------------|
| JP 10233889 | A | 19980902 | Heisei | (6) H04N001-04 |

JP

APPLICATION INFORMATION

ST19N FORMAT: JP1997-35361 19970219
 ORIGINAL: JP09035361 Heisei
 SOURCE: PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined
 Applications, Vol. 98, No. 9

INT. PATENT CLASSIF.:

MAIN: (6) H04N001-04
 SECONDARY: (6) G03B027-46; (6) G06T001-00; (6) H04N001-00

ABSTRACT:

PURPOSE: TO BE SOLVED: To surely correct the focal distance and the color of a film before the pre-scanning by setting the 1st condition after a partial image of the film is read, reading again the the film image under the 1st condition to set the 2nd condition, and fetching the film image under the 2nd condition.
 CONSTITUTION: anner device 1 reads an approximately center image part of the 1st frame of a film and detects the image density to decide a negative or positive film and then to set a focal distance. The same image is entirely read under an acquired 1st condition, and a parameter is set in relation to the exposure. The scanning is carried out to acquire the condition before the normal scanning, and the condition is decided before the pre-scanning and the main scanning. The object images are obtained via the negative and positive films F used for a silver salt type camera, a positive film MF containing a slide mounter, a color or monochromatic silver salt photo, etc., and an APS film.

L65 ANSWER 9 OF 21 JAPIO COPYRIGHT 2000 JPO
 ACCESSION NUMBER: 1998-148934 JAPIO
 TITLE: TRANSMISSION TYPE PHOTSENSITIVE RECORDING
 MEDIUM AND IMAGE RECORDER

INVENTOR: HATTORI YASUHIRO
 PATENT ASSIGNEE(S): BROTHER IND LTD, JP (CO 000526)
 PATENT INFORMATION:

| PATENT NO | KIND | DATE | ERA | MAIN IPC |
|-------------|------|----------|--------|-----------------|
| JP 10148934 | A | 19980602 | Heisei | (6) G03F007-004 |

JP

APPLICATION INFORMATION

ST19N FORMAT: JP1996-310769 19961121
 ORIGINAL: JP08310769 Heisei
 SOURCE: PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined
 Applications, Vol. 98, No. 6

INT. PATENT CLASSIF.:

MAIN: (6) G03F007-004
 SECONDARY: (6) G03F007-004; (6) B41M005-165; (6)
 B41M005-36; (6) G03F007-027; (6) G03F007-028;
 (6) G03F007-09; (6) G03F007-11; (6) G03F007-26

ABSTRACT:

PURPOSE: TO BE SOLVED: To provide a transmission type photosensitive recording medium capable of simply obtaining a color OHP sheet and an image recorder for the photosensitive recording

medium.

CONSTITUTION: transmission type photosensitive recording medium 21 is constituted of a photosensitive recording layer 23 including yellow coloring microcapsules 31Y, magenta coloring microcapsules 31M, cyan coloring microcapsules 31C and a developer 32, a transparent cover sheet 22 which is laminated on one surface of the photosensitive recording layer 23, to protect it and a transparent substrate sheet 24 which is laminated on the other surface of the photosensitive recording layer 23.

L65 ANSWER 10 OF 21 JAPIO COPYRIGHT 2000 JPO

ACCESSION NUMBER: 1998-021498 JAPIO
TITLE: NAVIGATION DEVICE WITH PRINTER

INVENTOR: MIYAKI KAZUYUKI

PATENT ASSIGNEE(S): BROTHER IND LTD, JP (CO 000526)

PATENT INFORMATION:

| PATENT NO | KIND | DATE | ERA | MAIN IPC |
|-------------|------|----------|--------|------------------|
| JP 10021498 | A | 19980123 | Heisei | (6) G08G001-0969 |

JP

APPLICATION INFORMATION

ST19N FORMAT: JP1996-191388 19960701

ORIGINAL: JP08191388 Heisei

SOURCE: PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 98, No. 1

INT. PATENT CLASSIF.:

MAIN: (6) G08G001-0969

SECONDARY: (6) G01C021-00; (6) G09B029-10; (6) G09G005-36

ADDITIONAL: (6) G01S005-02

ABSTRACT:

PURPOSE: TO BE SOLVED: To provide a navigation device with a printer in which display information such as road map information or guide information displayed on a display can be printed on a recording sheet as a color picture.

CONSTITUTION: navigation device 3 with a printer calculates the present position of an automobile based on a signal from a GPS receiver 16, a gyroscope 17, and a velocity sensor 18 by a microcomputer 11, reads road map information including a traveling route to a designation inputted from a control panel 19 from a CD-ROM 20, and displays it with guide information for guiding the automobile along the traveling route on a color display 21. The information displayed on the color display 21 is printed and outputted by a color printer 30 based on an instruction from the control panel 19.

L65 ANSWER 11 OF 21 JAPIO COPYRIGHT 2000 JPO

ACCESSION NUMBER: 1998-003139 JAPIO

TITLE: IMAGE FORMING MEMBER AND IMAGE FORMING METHOD, AND MARKING METHOD AND DEVICE THEREFOR

INVENTOR: OTSU SHIGEMI; FURUKI MAKOTO; FU RYUJUN

PATENT ASSIGNEE(S): FUJI XEROX CO LTD, JP (CO 359761)
 PATENT INFORMATION:

| PATENT NO | KIND | DATE | ERA | MAIN IPC |
|-------------|------|----------|--------|----------------|
| JP 10003139 | A | 19980106 | Heisei | (6) G03C001-73 |

JP

APPLICATION INFORMATION

ST19N FORMAT: JP1996-234420 19960904
 ORIGINAL: JP08234420 Heisei
 SOURCE: PATENT ABSTRACTS OF JAPAN (CD-ROM); Unexamined Applications, Vol. 98, No. 1

INT. PATENT CLASSIF.:

MAIN: (6) G03C001-73
 SECONDARY: (6) B41J002-44; (6) B41J002-45; (6) B41J002-455;
 (6) B41M005-20; (6) C08J007-00; (6) G03C001-725

ABSTRACT:

PURPOSE: TO BE SOLVED: To provide an image forming member and image forming method, and a marking method and device therefor capable of obtaining high quality and a comparatively high speed, decreasing the running cost and saving the energy consumption.

CONSTITUTION: nductive polymer film capable of doping and dedoping an ionic pigment molecule is formed on a substrate 5 consisting of an organic or inorganic semiconductor. Electromotive force is generated by light irradiation (for instance, laser light 9) in the conductive polymer film and in the conductive high polymer film, the ionic pigment molecule is doped or dedoped in accordance with the electromotive force, to form an image pattern. The ionic pigment molecule for forming the image pattern is electrochemically dedoped and the dedoped ionic pigment molecule is transferred to a recording medium 7 such as a paper sheet.

L65 ANSWER 12 OF 21 JAPIO COPYRIGHT 2000 JPO
 ACCESSION NUMBER: 1996-211782 JAPIO
 TITLE: COMPOSITE IMAGE FORMING DEVICE AND UNIFIED IMAGE OUTPUT METHOD THEREFOR
 INVENTOR: SAKAIZAWA KATSUHIRO; OZEKI YUKIHIRO; OGAWA KIYONARI; KONO YASUNORI; SATO KOJI
 PATENT ASSIGNEE(S): CANON INC, JP (CO 000100)
 PATENT INFORMATION:

| PATENT NO | KIND | DATE | ERA | MAIN IPC |
|-------------|------|----------|--------|----------------|
| JP 08211782 | A | 19960820 | Heisei | (6) G03G015-22 |

JP

APPLICATION INFORMATION

ST19N FORMAT: JP1995-17040 19950203
 ORIGINAL: JP07017040 Heisei
 SOURCE: PATENT ABSTRACTS OF JAPAN (CD-ROM); Unexamined Applications, Vol. 96, No. 8

INT. PATENT CLASSIF.:

MAIN: (6) G03G015-22
 SECONDARY: (6) B41J002-475; (6) B41J003-54; (6) B41M005-26;
 (6) G06F003-12

ABSTRACT:

PURPOSE: To form an image where a black-and-white image and a color image coexist without a hindrance even in the case a transmissive sheet or plain paper is used by unifying output information separated for every image forming means while deciding the kind of a recording medium.

CONSTITUTION: When image data is inputted from an external device 29, it is separated to the text black-and-white image, the black-and-white graphics and the color image by an image separation means C6 and stored in RAMs 1 to 5, and the kind of the recording medium is discriminated by a photointerrupter 25. In the case the recording medium is an OHP sheet and color image data is included in image-forming, the ROM 2 storing an image forming mode for an OHP sheet is read in first, and the stored content in the RAM 1 is transferred to the RAM 5 so that the image-forming of the black-and-white image data previously separated is performed by an ink-jet system. Thus, the image-forming is performed in a state where the black-and-white image coexists with the color image by the ink-jet system without contaminating a 2nd image forming means B by an electrophotographic system.

L65 ANSWER 13 OF 21 JAPIO COPYRIGHT 2000 JPO

ACCESSION NUMBER: 1992-334452 JAPIO
 TITLE: PRINTING APPARATUS
 INVENTOR: NAMIHANA MUTSUMI
 PATENT ASSIGNEE(S): FUJI PHOTO FILM CO LTD, JP (CO 000520)
 PATENT INFORMATION:

| PATENT NO | KIND | DATE | ERA | MAIN IPC |
|-------------|------|----------|--------|----------------|
| JP 04334452 | A | 19921120 | Heisei | (5) B41F007-02 |

JP

APPLICATION INFORMATION

ST19N FORMAT: JP1991-105898 19910510
 ORIGINAL: JP03105898 Heisei
 SOURCE: PATENT ABSTRACTS OF JAPAN, Unexamined Applications, Section: M, Sect. No. 1393, Vol. 17, No. 177, P. 143 (19930406)

INT. PATENT CLASSIF.:

MAIN: (5) B41F007-02
 SECONDARY: (5) B41C001-00; (5) G03F007-20

ABSTRACT:

PURPOSE: To dispense with the registering between respective colors by writing images corresponding to (n) colors on the unused plate material wound around the outer periphery of a plate cylinder at an equal interval in the circumferential direction of the cylinder to

form press plates and bonding inks of respective colors to the images on the press plates concerned to transfer the same to printing paper.

CONSTITUTION: A printing apparatus is a direct plate-making rotary type four-color lithographic offset sheet-fed press and equipped with one plate cylinder 12 capable of forming press plates 28 corresponding to four colors at a predetermined interval, one plate-making part 14 arranged in the vicinity of the outer periphery of the plate cylinder 12 and ink supply devices 16 corresponding to four colors B, C, M, Y and further equipped with a blanket cylinder transferring the ink images on the press plates 28, damping water feeders 20 corresponding to four colors and an impression cylinder 22. The impression cylinder 22 has $1/n$ (n : number of colors) the diameter of the plate cylinder 12, that is, $1/4$ and one printing paper is wound around the cylinder 22 to be continuously rotated (n) times to be discharged. The plate-making part 14 is equipped with a drawing part 30 writing images on an unused plate material 29 and a plate material processing part 32 making press plates 28.

L65 ANSWER 14 OF 21 JAPIO COPYRIGHT 2000 JPO
 ACCESSION NUMBER: 1992-069694 JAPIO
 TITLE: IMAGE FORMATION DEVICE
 INVENTOR: NAGANO TOSHIYUKI
 PATENT ASSIGNEE(S): CANON INC, JP (CO 000100)
 PATENT INFORMATION:

| PATENT NO | KIND | DATE | ERA | MAIN IPC |
|-------------|------|----------|--------|----------------|
| JP 04069694 | A | 19920304 | Heisei | (5) G03G015-22 |

JP

APPLICATION INFORMATION

ST19N FORMAT: JP1990-181511 19900711

ORIGINAL: JP02181511 Heisei

SOURCE: PATENT ABSTRACTS OF JAPAN, Unexamined Applications, Section: P, Sect. No. 1372, Vol. 16, No. 268, P. 166 (19920617)

INT. PATENT CLASSIF.:
 MAIN: (5) G03G015-22
 SECONDARY: (5) B41J002-525; (5) G03G015-00; (5) G03G015-01

ABSTRACT:

PURPOSE: To form a one-pass, multicolor image with high productivity by using one specific color for image formation by an electrophotographic system and employing an ink jet system, etc., for other colors.

CONSTITUTION: For example, a black image is formed by electrophotographic recording and other color images are formed by ink jet recording. Namely, image data on the black image obtained by a photodetection part are supplied to a laser light emission device 33 and a fixed position A on the drum surface of a photosensitive drum 11 which

rotates as shown by an arrow is irradiated with laser light 39 which is emitted by the device 33 to form a latent image of the black image on the drum surface; and the latent image is developed by a developing unit 35 with black toner and the black toner image is transferred at a position C from the drum surface to a transfer sheet S. Other color images are recorded by the jetting of color ink from an ink jet head 30 right before the upstream side of a registration roller 10, the ink jetted onto the sheet S is dried by a fan 38 to prevent the ink from sticking on the drum surface of the photosensitive drum 11, and the sheet S is sent to the transfer point C of the photosensitive drum 11.

L65 ANSWER 15 OF 21 JAPIO COPYRIGHT 2000 JPO
 ACCESSION NUMBER: 1990-139551 JAPIO
 TITLE: LAMINATING MATERIAL AND PHOTOGRAPHIC ELEMENT
 USING THE MATERIAL
 INVENTOR: OBAYASHI KEIJI; SUDA YOSHIHIKO; TSUCHIYA MASARU
 PATENT ASSIGNEE(S): KONICA CORP, JP (CO 000127)
 PATENT INFORMATION:

| PATENT NO | KIND | DATE | ERA | MAIN IPC |
|-------------|------|----------|--------|----------------|
| JP 02139551 | A | 19900529 | Heisei | (5) G03C011-08 |

JP

APPLICATION INFORMATION

ST19N FORMAT: JP1989-195991 19890728

ORIGINAL: JP01195991 Heisei

SOURCE: PATENT ABSTRACTS OF JAPAN, Unexamined
 Applications, Section: P, Sect. No. 1091, Vol.
 14, No. 372, P. 117 (19900810)

INT. PATENT CLASSIF.:

MAIN: (5) G03C011-08

ABSTRACT:

L65 PURPOSE: To improve the stable shelf life of a dyestuff
 image by laminating a laminating material contg. an image
 stabilizer on the image receiving layer of an image receiving
 material.

CONSTITUTION: A dyestuff image is transferred to an image receiving
 layer on a substrate and a laminating material contg. an image
 stabilizer and suitable for an ID card, etc., is laminated on the
 image receiving surface. A compd. represented by the formula (where
 R1 is H, halogen, etc., and each of R2 and R3 is H, alkyl, etc.) may
 be used as the image stabilizer. The laminating material may be
 formed by coating a substrate such as a plastic film or resin coated
 paper with a heat-meltable PVC layer as an adhesive layer and part
 of the image stabilizer is incorporated into the adhesive layer.

L65 ANSWER 16 OF 21 JAPIO COPYRIGHT 2000 JPO
 ACCESSION NUMBER: 1989-284846 JAPIO

1989-284846 JAPIO
 11, No. 372, P. 117 (19900810)

INT. PATENT CLASSIF.:

MAIN: (5) G03C011-08

TITLE: DEVICE AND METHOD FOR FORMING IMAGE
INVENTOR: SAKAI TOSHIO
PATENT ASSIGNEE(S): BROTHER IND LTD, JP (CO 000526)
PATENT INFORMATION:

| PATENT NO | KIND | DATE | ERA | MAIN IPC |
|-------------|------|----------|--------|----------------|
| JP 01284846 | A | 19891116 | Heisei | (4) G03B033-08 |

JP

APPLICATION INFORMATION

ST19N FORMAT: JP1988-115143 19880512

ORIGINAL: JP63115143 Heisei

SOURCE: PATENT ABSTRACTS OF JAPAN, Unexamined
Applications, Section: P, Sect. No. 1001, Vol.
14, No. 61, P. 46 (19900205)

INT. PATENT CLASSIF.:

MAIN: (4) G03B033-08

SECONDARY: (4) B41J003-00; (4) B41J003-20

ABSTRACT:

PURPOSE: To make the color slurring of a monochromic part such as character, etc., inconspicuous by providing a monochromic image forming means for forming a monochromic image on a medium in a device in which a color image can be obtained on a photosensitive recording body.

CONSTITUTION: In an exposing unit 36, a mask negative 22R and a photosensitive pressure sensitive film 24 are brought into contact with each other by an exposing board 25 and exposed with a light source 21R so as to form a latent image corresponding to a negative 22R. After exposure, the negative 22R is ejected to an intermediate sheet ejection tray 32. The above-mentioned operation is executed to the mask negatives 22G and 22B in the same way so as to form the color latent image on film 24. The exposed film 24 is superposed on a color developer sheet 26 and developed by a pressure developing means 28. Thereafter, the sheet 26 passes through a thermal fixing device 29 and is ejected to a color paper ejection tray 30 after the character, etc., are printed in black on the sheet 26 by a monochromic printer part 39. Thus, the image in which color slurring is made inconspicuous can be obtained.

L65 ANSWER 17 OF 21 JAPIO COPYRIGHT 2000 JPO

ACCESSION NUMBER: 1988-265203 JAPIO

TITLE: LAMINATE OF POLARIZING FILM FOR STEREOSCOPIC
TELEVISION AND ITS PRODUCTION

INVENTOR: MATSUO TADASHI

PATENT ASSIGNEE(S): NIPPON KAYAKU CO LTD, JP (CO 000408)

PATENT INFORMATION:

| PATENT NO | KIND | DATE | ERA | MAIN IPC |
|-------------|------|----------|-------|----------------|
| JP 63265203 | A | 19881101 | Showa | (4) G02B005-30 |

JP

APPLICATION INFORMATION

ST19N FORMAT: JP1987-98675 19870423
 ORIGINAL: JP62098675 Showa
 SOURCE: PATENT ABSTRACTS OF JAPAN, Unexamined
 Applications, Section: P, Sect. No. 833, Vol.
 13, No. 82, P. 83 (19890223)

INT. PATENT CLASSIF.:

MAIN: (4) G02B005-30
 SECONDARY: (4) G02B027-26

ABSTRACT:

PURPOSE: To enable more stereoscopic observation of images by disposing a 2nd uniaxially stretched partially polarizing film in such a manner that the uncolored parts correspond to the colored parts of the partially polarizing film and the

colored parts to the uncolored parts thereof and that axis of polarization thereof intersects orthogonally with the axis of polarization of the 1st partially polarizing film.

CONSTITUTION: The uniaxially stretched partially polarizing film formed by distributing many pieces of the colored parts having polarizability and the uncolored parts having no polarizability and the 2nd uniaxially stretched partially polarizing film are so disposed that the uncolored parts thereof correspond to the colored parts of the partially polarizing film and the colored parts to the uncolored parts and that the axis of polarization thereof intersects orthogonally with the axis of polarization of the 1st partially polarizing film. The laminate of the polarizing films in which the parts having the polarizability and the parts having no polarizability respectively of two sheets of the polarizing films having partially the polarizability correspond exactly to each other and the respective axes of polarization are exactly perpendicular to each other is, therefore, obtd. and the more stereoscopic observation of the images is enabled.

L65 ANSWER 18 OF 21 JAPIO COPYRIGHT 2000 JPO
 ACCESSION NUMBER: 1988-037950 JAPIO
 TITLE: PRINTING METHOD AND APPARATUS USING LIGHT
 INVENTOR: YAMADA MASAO
 PATENT ASSIGNEE(S): NOZAKI INSATSU SHIGYO KK, JP (CO 404304)
 PATENT INFORMATION:

| PATENT NO | KIND | DATE | ERA | MAIN IPC |
|-------------|------|----------|-------|----------------|
| JP 63037950 | A | 19880218 | Showa | (4) B41J003-00 |

JP

APPLICATION INFORMATION

ST19N FORMAT: JP1986-181299 19860731
 ORIGINAL: JP61181299 Showa
 SOURCE: PATENT ABSTRACTS OF JAPAN, Unexamined
 Applications, Section: M, Sect. No. 718, Vol.
 12, No. 251, P. 102 (19880715)

INT. PATENT CLASSIF.:

MAIN: (4) B41J003-00

ABSTRACT:

PURPOSE: To obtain a print having preservability at a high speed, by a method wherein a thermal **color forming sheet** deactivated by light is used and the negative pattern of a necessary pattern is drawn on said sheet by the irradiation of light and the entire surface of the sheet is subsequently heated.

CONSTITUTION: A thermal **color forming sheet** of which the color forming mechanism is deactivated by the irradiation of light is exposed through the platen 2 of a printer and subsequently passed between heating rollers 3, 3. Semiconductive laser 5 is excited by the recording signal from a driver driven by the order of a control part. The laser beam emitted from the semiconductive laser 5 is reflected by a rotary prism and the sheet is scanned from left to right by the rotation of the prism. The sheet 1 after exposure continuously passes between the heating rollers 3, 3 where the part unexposed by beam, that is, a necessary pattern is developed by heat. Further, a heat blocking plate is pref. provided between the heating rollers 3, 3 and the platen 2 so as not to exert adverse effect on the sheet before exposure.

L65 ANSWER 19 OF 21 JAPIO COPYRIGHT 2000 JPO

ACCESSION NUMBER: 1987-098965 JAPIO

TITLE: ORIGINAL READER

INVENTOR: SUDA KENICHI; MATSUOKA NOBUO; HASEGAWA SHIZUO

PATENT ASSIGNEE(S): CANON INC, JP (CO 000100)

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | ERA | MAIN IPC |
|-------------|------|----------|-------|----------------|
| JP 62098965 | A | 19870508 | Showa | (4) H04N001-04 |

JP

APPLICATION INFORMATION

ST19N FORMAT: JP1985-238905 19851025

ORIGINAL: JP60238905 Showa

SOURCE: PATENT ABSTRACTS OF JAPAN, Unexamined Applications, Section: E, Sect. No. 546, Vol. 11, No. 3, P. 111 (19871006)

INT. PATENT CLASSIF.:

MAIN: (4) H04N001-04

SECONDARY: (4) H04N001-028

ABSTRACT:

PURPOSE: To form a picture signal faithful to the shade of an original by providing a solid color image sensor, an invisible light removal filter means and a spectral distribution correction filter means decreasing an output difference corresponding to the each split color of a sensor.

CONSTITUTION: Each photoelectric transfer element of the solid color image sensor 5 has a considerably high sensitivity to near infrared light and infrared light. Since a halogen lamp 2 radiates a large

amount of near infrared rays and infrared rays, the photoelectric transfer element 521 senses near infrared light and infrared light among reflected rays from an original 0 lighted by the lamp 2. The general spectral sensitivity of the color image sensor 5, which a product between a spectral transmission factor and spectral sensitivity shows, varies with respect to each color light, and the spectral distribution of radiated light from the original lighting lamp is not uniform. A colored layer made of phthalocyanine is coated on a surface opposite to the deposition side of a near infrared light removal optical thin film 62 on a heat ray absorption glass 61, thereby forming a filter with a spectral transmission factor in an optical path. Then filters 6 and 7 are integrally formed and arranged. Thus a color picture signal faithful to the shade of an original can be formed.

L65 ANSWER 20 OF 21 JAPIO COPYRIGHT 2000 JPO
 ACCESSION NUMBER: 1985-082371 JAPIO
 TITLE: PRINTER HEAD
 INVENTOR: HASEGAWA SHIZUO; HAGINO YOSHITAKA
 PATENT ASSIGNEE(S): CANON INC, JP (CO 000100)
 PATENT INFORMATION:

| PATENT NO | KIND | DATE | ERA | MAIN IPC |
|-------------|------|----------|-------|----------------|
| JP 60082371 | A | 19850510 | Showa | (4) B41J003-21 |

JP

APPLICATION INFORMATION

ST19N FORMAT: JP1983-191351 19831012

ORIGINAL: JP58191351 Showa

SOURCE: PATENT ABSTRACTS OF JAPAN, Unexamined Applications, Section: M, Sect. No. 412, Vol. 9, No. 2261, P. 47 (19850912)

INT. PATENT CLASSIF.:

MAIN: (4) B41J003-21

SECONDARY: (4) G02F001-13

ABSTRACT:

PURPOSE: To eliminate the nonuniformity of the intensity of a light and to obtain a light source of low cost, by providing a light source unit formed of a thin-film light emitting element and a microshutter array forming an opening in response to an electric signal, and by integrating the thin-film light emitting element and the microshutter array into one structure.

CONSTITUTION: A printer head 703 is formed of a thin-film EL element 701 and an LCD shutter array 702 integrated in

one structure. The thin-film EL element is lighted constantly to irradiate the LCD shutter array 702 constantly. Each microshutter of the LCD shutter array 702 forms an opening selectively and generates an optical signal, which is applied to a photosensitive drum 704 so as to form an electrostatic latent image. The photosensitive drum 704 is electrified to be plus

or minus by an electrifying station 706, and an electric charge is extinguished at a place to which a light is applied and the electrostatic latent image is formed. After developed, the electrostatic latent image is transferred onto an image retaining member such as ordinary paper at a transfer unit 708 and fixed by heat, pressure or the like at a fixing unit 710, and thus a fixed printed article is obtained.

L65 ANSWER 21 OF 21 JAPIO COPYRIGHT 2000 JPO

ACCESSION NUMBER: 1983-019073 JAPIO
 TITLE: DRIVING METHOD FOR DISPLAY ELEMENT FOR COLOR PRINT
 INVENTOR: OHATA SHUICHI
 PATENT ASSIGNEE(S): YOKOGAWA HOKUSHIN ELECTRIC CORP, JP (CO 000650)

PATENT INFORMATION:

| PATENT NO | KIND | DATE | ERA | MAIN IPC |
|-------------|------|----------|-------|----------------|
| JP 58019073 | A | 19830203 | Showa | (3) H04N001-22 |

JP

APPLICATION INFORMATION

ST19N FORMAT: JP1981-117528 19810727
 ORIGINAL: JP56117528 Showa
 SOURCE: PATENT ABSTRACTS OF JAPAN, Unexamined Applications, Section: E, Sect. No. 171, Vol. 7, No. 941, P. 155 (19830420)

INT. PATENT CLASSIF.:

MAIN: (3) H04N001-22
 SECONDARY: (3) B41J003-04; (3) B41J003-21; (3) G03B027-32; (3) H04N001-46

ABSTRACT:

PURPOSE: To print a picture with fidelity and tone of good quality, changing duty ratio depending on color for video signals given to a display element, then using a conventional less expensive color print paper.

CONSTITUTION: A video signal illuminating fluorescent film of various colors is used as a pulse width signal with large duty ratio to a color with low sensitivity and that with small duty ratio to the color with high sensitivity corresponding to the sensitivity of color for a color sensing body. Thus, the time excited with an electron beam on the color sensing body or fluorescent film depends on each color, allowing to compensate the difference of the sensitivity by color effectively for the color sensing body.

INT. PATENT CLASSIF.:

MAIN: (3) H04N001-22

SECONDARY: (3) B41J003-04; (3) B41J003-21; (3) G03B027-32; (3) H04N001-46

ABSTRACT:

PURPOSE: To print a picture with fidelity and tone of good quality, changing duty ratio depending on color for video signals given to a display element, then using a conventional less expensive color print paper.